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Ecoanxiety and mental health unveiled: a bibliometric analysis

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ABSTRACT

Ecoanxiety, which encompasses the psychological impacts of environmental change, has emerged as a pressing global concern. However, the complex interrelationship between environmental factors and mental health in the context of ecoanxiety remains underexplored. This bibliometric analysis examines the evolution of international research on ecoanxiety and mental health using the Scopus and Web of Science databases. Parameters analyzed include publication trends over time, contributing countries, research foci, and keyword frequencies related to climate change, ecoanxiety, mental health, and solastalgia. The findings reveal surging scholarship in recent years, exponential publication growth, and increasing international collaborations. The total of 214 documents initially retrieved, 122 peer-reviewed publications met the inclusion criteria after pre-processing. The analysis provides a comprehensive overview of the current state of ecoanxiety and mental health research. It elucidates patterns in the emergence and progression of this burgeoning field to inform future research directions. Specifically, the elucidated features regarding keyword usage and research trends establish a foundation to advance investigations on the nexus between environmental issues and psychological well-being. This bibliometric study synthesizes existing knowledge and unveils fruitful avenues to progress understanding of the psychological ramifications of ecological crises.

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1. INTRODUCTION

The concern about climate change and the accompanying worry about the future can give rise to a range of emotional responses, including fear, anger, feelings of powerlessness, exhaustion, stress, and sadness, collectively referred to as 'eco-anxiety' and climate anxiety [1]. Eco-anxiety is a distressing psychological condition that arises as a result of growing anxieties about the future in the face of climate change [2]. This concept acknowledges the psychological toll environmental crises impose and emphasises the necessity of a holistic approach to well-being that encompasses both human and planetary health [3]-[5].

The phenomenon of eco-anxiety encompasses not only the emotional aspects but also physical manifestations, thereby shedding light on the complex mental health issues associated with this condition [6]. Individuals grappling with eco-anxiety often experience a whirlwind of emotions, including chronic worry, fear, grief, and anger, all stemming from deep concerns about the present and future state of the environment [7], [8]. This anxiety is triggered by various factors such as climate change, species extinction, deforestation,

and environmental degradation [9]. The emotional toll of eco-anxiety can be further amplified by the overwhelming magnitude of these environmental crises, leading to a sense of confusion and despair.

It is essential not to overlook the physical symptoms associated with eco-anxiety, as the chronic stress and anxiety it entails can manifest in various ways [10]. Individuals may experience sleep disturbances, fatigue, headaches, muscle tension, and gastrointestinal issues, all of which contribute to their overall suffering and highlight the interconnectedness of mental and physical well-being in environmental concerns [11]-[13]. Despite its increasing prevalence, the significance of eco-anxiety is frequently underestimated or disregarded in society and the medical community, as noted by Coffey, Bhullar, Durkin, Islam, and Usher in 2021 [2]. This gap in understanding leaves many individuals grappling with eco-anxiety without proper support systems or access to appropriate mental health resources. Consequently, there is an urgent need to bridge the gaps in research, awareness, and support systems surrounding eco-anxiety. Addressing the mental health implications of eco-anxiety and providing comprehensive care can significantly assist individuals in navigating the emotional and physical toll of environmental concerns [14], [15]. To address these gaps, this bibliometric analysis comprehensively examines eco-anxiety and mental health literature to answer the following research questions:

RQ1: What is the aggregate quantity of research publications on ecoanxiety and mental health, and how has it progressed chronologically?

RQ2: Which countries have made noteworthy advancements in ecoanxiety and mental health investigation?

RQ3: What are the primary areas of inquiry and recurring motifs from the literature concerning ecoanxiety and mental health?

RQ4: What are the primary and influential papers with the highest ecoanxiety and mental health citation count?

The overarching goal of this bibliometric analysis is to provide a comprehensive overview of the current literature on ecoanxiety and mental health. By examining publication trends, influential works, prominent themes, and geographic distributions, this study aims to synthesize the existing knowledge in this emerging field. The insights gained can help identify gaps in the research, direct future investigative efforts, and facilitate collaboration between scholars across disciplines and geographic regions. More broadly, mapping the ecoanxiety and mental health research landscape will highlight the urgency of addressing the psychological implications of environmental crises, thus promoting awareness and supporting vulnerable populations grappling with eco-distress. This review ultimately seeks to accelerate progress in understanding, recognizing and responding to ecoanxiety as societies worldwide confront profound environmental changes.

2. METHOD

The present investigation, titled “Ecoanxiety and Mental Health Unveiled: A Bibliometric Analysis”, aims to create a compelling and descriptive title by authors to effectively captures the essence of ecoanxiety and mental health in previous research. This running title has been aptly utilised for communicating the notion of uncovering hidden insights and shedding light on ecoanxiety and mental health from a bibliometric standpoint. The title was carefully constructed using relevant keywords to succinctly convey the key focus and approach of the bibliometric analysis. Moreover, the use of the term "unveiled" intimates the revealing of new insights through a systematic examination of the literature. The authors strove to formulate an impactful title to draw readers' interest and accurately encapsulate the significance of elucidating trends and patterns concerning ecoanxiety and mental health research.

2.1. Software and database

Bibliometric analysis, a methodology that originated in library science, offers researchers a potent tool for assessing scientific productivity [16]. This approach involves examining bibliographic data to generate descriptive information across various research domains [17]. Bibliometric analysis is widely acknowledged within academic circles, as it employs statistical techniques to evaluate the influence of research [18]. This process can be completed by identifying, classifying, and examining significant components within a specific research field [19]. It is noted that bibliometric analysis has become increasingly prevalent owing to its critical role in identifying research lacunae and illuminating novel research domains across diverse fields of knowledge [20].

The bibliometrics analysis can be performed using software like ScientoPy, VOSviewer, and Biblioshiny [21], [22]. However, the appropriateness of the software is contingent upon the specific research inquiries at hand. This implies that the chosen software can address the research inquiries posited by the investigators. In this study, bibliometric analysis was conducted using ScientoPy. This software employs Python scripts to automate report generation on significant parameters such as authors, countries, and documents, following the research questions or objectives formulated by the researchers. One of the primary benefits of ScientoPy is its ability to address potential bias in retrieved datasets through pre-processing techniques [23].

In order to perform a bibliometric analysis on ecoanxiety, two central databases, namely Web of Science (WoS) and Scopus, were employed. These databases are widely acknowledged as the most extensive collections of abstracts and citation databases on scholarly research literature on a global scale. The criteria for including datasets did not delineate any temporal scope or linguistic constraints. The chosen document types include conference papers, articles, reviews, proceedings papers, and preprints [24].

The search query utilised a range of terms, including: ("eco-anxiety" OR "ecoanxiety" OR "solastalgia" OR "climate change anxiety" OR "climate change worry" OR "environmental worry" OR "environmental distress" OR "ecological grief" OR "ecological stress") AND ("mental health" OR "mental wellness" OR "mental wellbeing" OR "psychological wellbeing" OR "emotional wellness" OR "cognitive health" OR "emotional wellbeing" OR "psychological wellbeing" OR "emotional balance" OR "cognitive wellbeing" OR "mental resilience"). The present inquiry was executed on the title, abstract, and keyword sections of Scopus, and the topic field of WoS, encompassing the title, abstract, author keywords, and keywords plus R. The dataset was obtained on June 18, 2023, utilising the specified search criteria. The search yielded a total of 253 documents retrieved from the two databases.

2.2. Data collection and analysis

The retrieved articles were carefully screened to ensure the reliability and accuracy of the dataset [25]. First, documents were omitted based on publication type, removing any non-peer reviewed documents such as editorials, news articles, corrections, and retracted publications. This filtering resulted in the removal of 92 documents, leaving 151 in the dataset. Next, the datasets from Scopus and Web of Science were consolidated, identifying one duplicate record found in both databases. After examining the duplicate entry, the Scopus version was retained and the WoS duplicate was deleted.

The final pre-processed dataset contained 122 documents-from Scopus and Web of Science as shown in Figure 1. This sample represents the relevant peer-reviewed literature on ecoanxiety and mental health meeting the search criteria [26]. Precise tracking of excluded and duplicate documents enhances the integrity of the bibliometric analysis by ensuring only scholarly publications from the two databases are analyzed. The careful pre-processing phase improves the overall quality and generalizability of this study's findings. Limiting the analysis to the top 10 results simplifies the process and makes it more manageable and effective. Restricting the analysis to the top 10 makes comparing entities within a given parameter easier. Hence, limiting the scope gives us a clearer picture of the relative performance of different countries, research areas, and keywords.

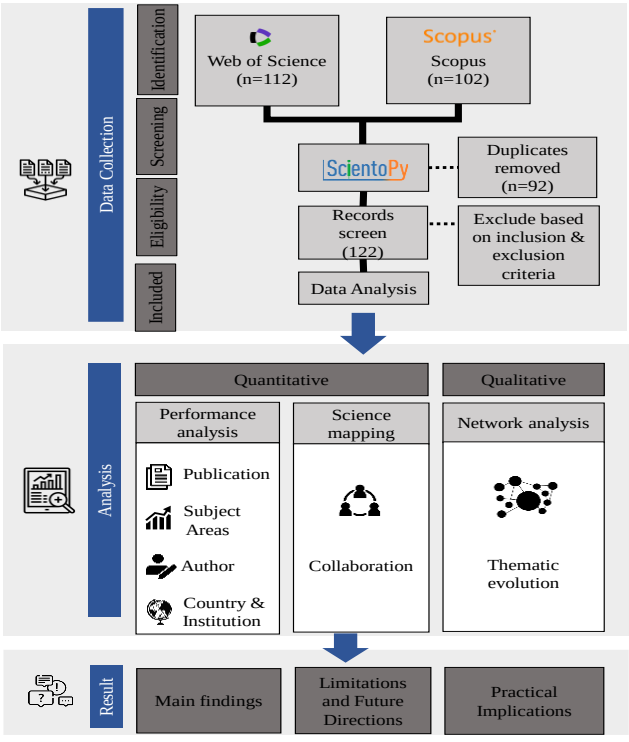


Figure 1. The study flowchart

3. RESULTS AND DISCUSSION

This bibliometric analysis yields two sections that depict descriptive information about the growth and evolution of publications, countries, research areas, and most-cited papers. An additional task of interest involves elucidating the significance of the evolution of authors' keywords to inspire potential research endeavours on ecoanxiety and mental health research. In particular, a detailed examination of keyword usage over time can unveil meaningful trends regarding topical focuses and research trajectories. Analyzing the progression of keyword selection provides further insights into the emerging directions and expanding scope of ecoanxiety and mental health scholarship. Moreover, tracking keyword patterns across successive publications reveals the changing priorities and interests of investigators in this developing field. Elucidating keyword trends also highlights research gaps yet to be explored by future studies, thereby motivating forthcoming efforts to address such voids. Overall, a focused analysis of keywords can aid in charting the growth of ecoanxiety and mental health literature to guide future research activities.

3.1. The aggregate quantity of research publications on ecoanxiety and mental health

The term aggregate quantity describes the collective body of research publications on eco-anxiety and mental health. This term denotes the topic's growth or evolution over time, as depicted in Figure 2 as it depicts the evolution and trend of publications in two databases, WoS and Scopus, from 2002 to 2022. The aggregate quantity analysis provides a big picture overview of how ecoanxiety and mental health research has progressed over the past two decades based on publication volume indexed in major databases.

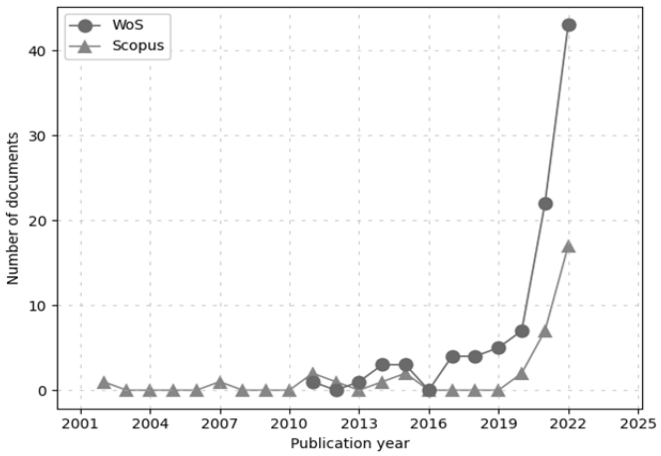


Figure 2. The aggregation of publications in WoS and Scopus

Upon reviewing the timeline graph in WoS, it is apparent that no publications were documented in the database in 2002, and a persistent lack of publications persisted until 2009. A significant change was observed in 2010 when a publication surfaced, followed by another in 2011. The trend persisted with intermittent variations throughout the years. Between 2012 and 2014, there was a gradual increase in the number of publications. The peak was reached in 2021 with 43 publications, followed by a slight decline to 22 publications in 2022. The WoS database demonstrated a considerable expansion in publications, suggesting a rising level of interest in the subjects encompassed by this database.

Shifting our focus to the Scopus graph, it is observed that a solitary publication was documented in 2002, and subsequently, no publications were recorded until 2006. The initial indexed paper bears Mooney *et al*. authorship [27]. The initial indexed paper was authored by Mooney *et al.* in which they examined the association between the severity of drug use patterns among female prisoners and their quality of life scores. Mooney's findings suggest that higher severity of drug use is linked to poorer quality of life. This study is a foundational piece of research related to the intersection of quality of life and mental health issues. Next, there was a minor increase in 2007 with one publication, and the trend remained relatively unchanged until 2010. Since 2010, there has been a significant rise in publications, culminating in a peak of 17 in 2022. The Scopus database exhibited a consistent upward trend in publications, despite experiencing fluctuations. This assertion implies a growing interest in the research and academic communities regarding the relationship between eco-anxiety and mental health.

Significant differences exist between the publications in the Web of Science (WoS) and Scopus databases. WoS has established itself as the leading database in terms of total publications compared to Scopus. However, it is worth noting that a previous study suggests that while Scopus may be considered more accurate than WoS, it tends to overlook the indexing of specific papers, resulting in the loss of relevant citations that could have been given or obtained [28], [29].

3.2. Noteworthy countries in ecoanxiety and mental health investigation

This section, "noteworthy countries," pertains to the countries where the authors are affiliated and have productively published papers on ecoanxiety and mental health. This parameter is crucial in determining the region where this topic received significant attention from scholars. This could be crucial in determining an appropriate strategy for addressing eco-anxiety and mental health issues, which may facilitate future collaboration among researchers or attract research funding from sponsors. Figure 3 displays the top ten countries that have produced academic works on ecoanxiety and mental health, ranked by activity level. The data in Figure 3 are regarding the aggregate count of documents published by countries and the corresponding percentage of documents published in 2021 and 2020 percentage of documents published in last year (PDLY). PDLY stands for "Percentage of Documents Published in Last Year" and refers to the percentage of total publications from each country that were published in the recent years of 2021 and 2020. Analyzing the PDLY allows us to identify which countries have been most actively publishing research on ecoanxiety and mental health in the past two years. A higher PDLY percentage indicates that a greater proportion of a country's publications on this topic are recent, suggesting an upward trend in research productivity.

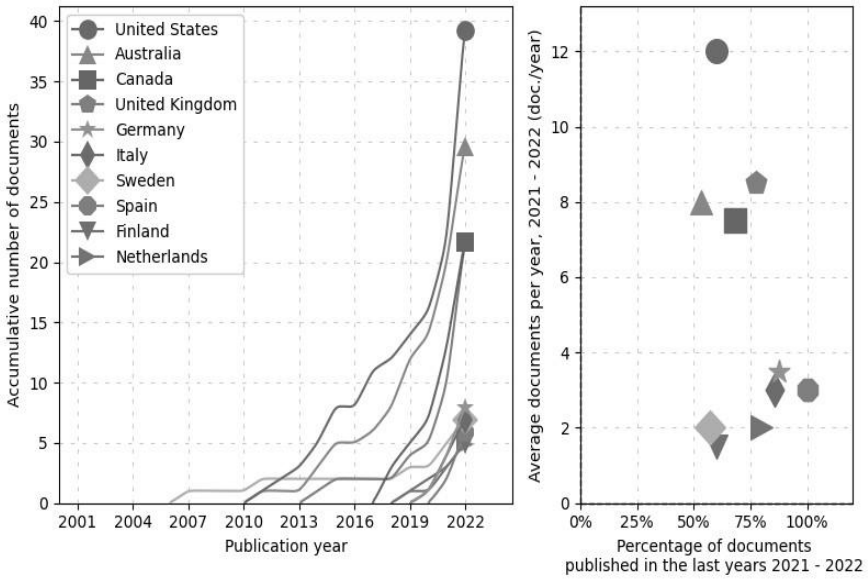


Figure 3. The ten most productive countries

The United States has been identified as the most prolific country in terms of academic publications on ecoanxiety and mental health, with 40 works. Around 60% of these publications were released between 2021 and 2020. Australia ranks second with 30 academic publications, of which 53% were published in the PDLY. Canada and the United Kingdom are tied for third place, with each country producing 22 academic works. Nevertheless, there exists a significant disparity in the PDLY percentages. In 2021 and 2020, Canada exhibited a publication rate of 68%, whereas the United Kingdom demonstrated a notably higher rate of 77%.

Germany is ranked fourth in terms of academic works, with eight publications. Notably, 88% of these publications were published in the PDLY. Italy and Sweden are ranked fifth and sixth, respectively, with comparable quantities of academic publications (7) and high PDLY percentages (86% for Italy and 57% for Sweden). Spain has achieved a 100% PDLY score, indicating that all of its academic works were published in 2021 and 2020. The country has produced a total of six publications. There are several potential factors that could explain Spain's 100% PDLY score. Firstly, there may have been a growing awareness and

demand for research on ecoanxiety and mental health within the country. This heightened interest could have motivated researchers in Spain to prioritise and expedite the publication process, driven by societal concerns, policy discussions, or public interest in the topic. Furthermore, Spain might have provided ample funding and support for research projects related to ecoanxiety and mental health. This financial backing and institutional support can incentivise researchers to conduct studies and publish their findings within specific timeframes. Collaboration could have played a significant role as well. Researchers in Spain may have actively collaborated with each other or with international partners, facilitating the generation of a significant number of publications within a relatively short period. Collaborative efforts tend to enhance research productivity and increase the likelihood of timely publications. Finland and the Netherlands are tied for the ninth position on the list, with each country having five academic works. Finland exhibits a PDLY rate of 60%, whereas the Netherlands has a slightly elevated rate of 80%.

3.3. Primary research areas and recurring motifs of ecoanxiety and mental health

The phrase "primary research areas" pertains to the principal subject areas or fields of study that have been prior researchers' primary focus of academic research on ecoanxiety and mental health. The term "recurring motifs" refers to the specific keywords utilised by the authors that researchers have previously identified. This study analyses the keywords utilised in published studies to identify recurring motifs. According to Abdullah [17], keywords are precise terms or phrases that encapsulate a research article's primary concepts or themes. By analysing the frequency and prominence of keywords utilised in a given corpus of literature, scholars can acquire valuable insights into the primary research domains and the central themes that have been explored.

Identifying the top ten most utilised keywords by prior ecoanxiety and mental health researchers would yield significant insights into the principal research areas. This information can guide future research efforts, aid in creating theoretical frameworks, and enhance our comprehension of the psychological impact of environmental concerns on individuals' welfare. Figure 4 displays the ten primary subject areas that have been the subject of research on the correlation between ecoanxiety and mental health. According to the data presented in Figure 4, it can be inferred that environmental sciences & ecology has emerged as the subject area with the highest total of 35 publications. This suggests that substantial research has been undertaken at the confluence of environmental sciences, ecology, and mental health. The statement indicates a keen inclination towards comprehending the psychological effects of environmental elements and the correlation between nature and emotional and psychological wellness. The subject area of Public, Environmental & Occupational Health ranked second with 27 publications. The prominence of this subject area indicates a growing recognition of the importance of assessing mental health effects within environmental and occupational contexts. It highlights the significance of public health policies and interventions in addressing the psychological consequences of ecoanxiety. Psychiatry is the third-ranked subject area in the total number of publications, totalling 20. This statement highlights the clinical interest in exploring the relationship between ecoanxiety and mental health. It emphasises the importance of psychiatric evaluation, diagnosis, and treatment in addressing this issue. The selection of these research areas underscores the multidisciplinary nature of studying ecoanxiety and mental health. It is clear that experts from various disciplines, including psychiatry, ecology, public health, and environmental sciences, are working together to thoroughly examine this complicated phenomenon. Ongoing interconnections with other fields, particularly religion, are predicted to provide novel perspectives and advance our understanding of ecoanxiety and mental health on a more comprehensive scale. By identifying the gaps and opportunities within these research areas, scholars are motivated to address the knowledge deficits through further investigation, theoretical development, and practical applications. This demonstrates the dynamic nature of research in this field, where ongoing efforts are directed towards filling those gaps and advancing our understanding of ecoanxiety and its mental health implications. Collaborative endeavors among researchers from different disciplines will be crucial in achieving these goals and promoting comprehensive insights into this important subject matter.

The use of keywords by prior researchers can facilitate comprehension of the present state of research and future research advancements pertaining to the intersection of ecoanxiety and mental health. The data presented in Figure 5 indicates that the percentage of documents published in 2021 and 2022 (PDLY) may serve as a valuable reference point for researchers seeking to advance their investigations into ecoanxiety and mental health. Figure 5 presents a ranking of author keywords commonly utilised in the scholarly literature on ecoanxiety and mental health. The figure includes the total frequency of occurrence of these keywords and the percentage of documents published in 2021 and 2022 (PDLY).

The term "climate change" has been identified as the most frequently utilised keyword, with 73 instances. This suggests a particular emphasis on comprehending the psychological ramifications of climate change. Moreover, the percentage PDLY rate of 81 implies that a considerable fraction of current literature has explicitly investigated the convergence of climate change and mental health. This aligns with previous

studies that argue the importance of integrating the psychological dimension into multidisciplinary and interdisciplinary research and policy initiatives addressing the impacts of climate change [30]. This finding highlights the collaborative efforts between environmental scientists, psychologists, public health experts, and other disciplines in fostering a holistic understanding of the interconnections between the environment and mental well-being. It aligns with the consensus from previous systematic reviews that interdisciplinary collaboration is crucial for better understanding and addressing the complex health risks posed by climate change [31].

The term "mental health" has been identified as the second most frequently utilised keyword, appearing 53 times. This denotes the acknowledgement of the significance of mental health concerning ecoanxiety. The PDLY percentage of 70 denotes a sustained scholarly inquiry into the subject matter in 2021 and 2022.

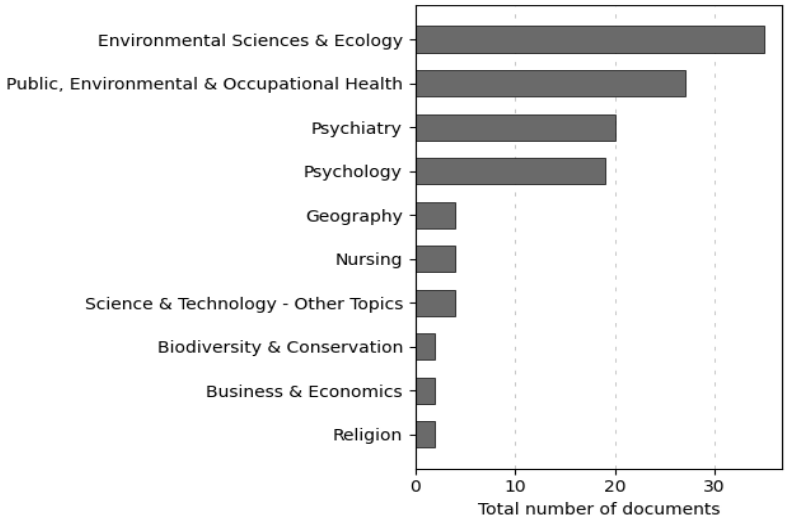


Figure 4. The top ten research areas

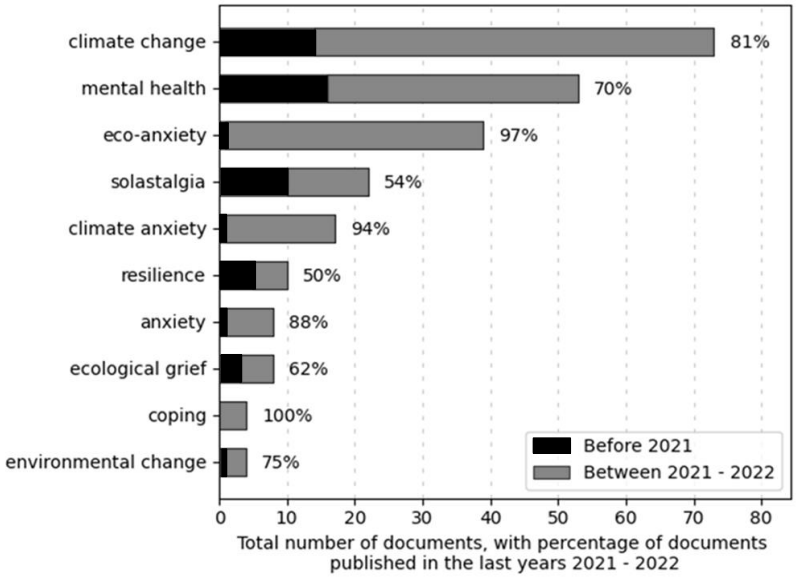


Figure 5. The top ten keywords used by previous researchers

The term "Eco-anxiety" has been observed 39 times, indicating a particular emphasis on the psychological experience of distress or anxiety in reaction to ecological concerns. The PDLY percentage of 97 indicates a significant increase in research efforts towards this subject matter within the discipline. The

substantial presence and high PDLY of "Eco-anxiety" underscores its emergence as a priority research area as investigators seek to conceptualize, evaluate, and address this increasingly recognized psychological phenomenon.

Additional terms such as “solastalgia,” which refers to psychological distress caused by adverse environmental transformations, and “climate anxiety,” which pertains to anxiety linked explicitly to climate change, are also included in the ranking. These two keywords focus on emotional and psychological reactions to environmental obstacles. The percentages of PDLY, notably high at 55% and 94%, suggest that research endeavours in these domains are ongoing.

In addition, the utilisation of terms such as “resilience,” “anxiety,” and “ecological grief” signifies a persistent inclination towards investigating adaptive strategies, universal anxiety encounters, and affective reactions to environmental depletion [32]-[34]. The percentages of PDLY linked with these specific keywords offer valuable insights into the current research patterns and the time-bound emphasis of scholarly publications. The presence of resilience underscores efforts to examine psychological coping mechanisms and protective factors against eco-distress. The emergence of general anxiety highlights attempts to situate eco-anxiety within broader anxiety research and theory. Ecological grief indicates a focus on emotional reactions to environmental change. Tracking the PDLY rates for these terms reveals growth in these intersecting research domains in recent publications. This knowledge helps orient future research to build on momentum in studying resilience, general anxiety, and ecological grief in relation to eco-anxiety.

Finally, it is noteworthy that “coping” and “environmental change” exhibit lower rankings yet demonstrate high PDLY percentages. The evidence indicates that the predominant emphasis of recent literature utilising the revealed keywords has been 2021 and 2022. The “coping” focus indicates a growing interest in investigating the psychological dimensions of adapting to environmental challenges and understanding how changing environments impact individuals’ well-being. This aligns with previous research, which emphasises the central role of coping strategies and emotion regulation in promoting psychological well-being, particularly within the complex social contexts we navigate [33]. To summarise, Figure 5 displays the PDLY percentages of the most frequently utilised keywords, which indicate the current and dominant themes in ecoanxiety and mental health. The user’s text underscores a particular focus on climate change, mental health, eco-anxiety, and associated notions, underscoring the current research and attention devoted to comprehending the psychological effects of environmental issues in contemporary times.

3.4. The most cited ecoanxiety and mental health publications

Table 1 displays the articles with a minimum of 50 citations until June 2023 that have received the highest number of citations. This citation analysis is based on the WoS and Scopus databases. It should be noted that the number of citations presented in this study may differ significantly from other databases, such as Google Scholar. The papers above have made noteworthy contributions to ecoanxiety and mental health.

The article “Ecological grief as a mental health response to climate change-related loss”, authored by Cunsolo and Ellis [35], has garnered the highest number of citations, amounting to 342, thereby establishing its significant influence. The present manuscript delves into ecological grief and its association with psychological well-being in the milieu of losses stemming from climate change.

The scholarly article “Climate change and mental health: Risks, impacts and priority actions” by Hayes *et al*. [36] has garnered 218 citations. The article offers a thorough and inclusive summary of the hazards, consequences, and crucial measures on mental health amidst the challenges posed by climate change. Cianconi *et al*. [37] conducted a systematic descriptive review entitled “The Impact of Climate Change on Mental Health”, which has received 216 citations. The study provides significant insights into the effects of climate change on mental health. Furthermore, the scholarly article that centres on the psychological ramifications of the deepwater horizon oil spill on the communities of Florida and Alabama, written by Grattan *et al*. [38], has garnered 137 citations and illuminates the initial psychological consequences encountered by the impacted communities.

The article “Climate change threats to family farmers’ sense of place and mental wellbeing: A case study from the Western Australian Wheatbelt” by Ellis and Albrecht [39] has gained 106 citations. The study presents a case analysis of climate change’s impact on family farmers’ mental health. The clarification of the five articles and other publications listed in Table 1, published in reputable databases, showcases the multifaceted nature of ecoanxiety and its impact on mental health. The topics explored in these articles include ecological grief, the effects of climate change, and the psychological aftermath of environmental occurrences. Their contributions have considerably impacted discipline, enhancing comprehension of the psychological aspects linked to climate change and ecological disturbances.

Table 1. The most cited papers with at least 50 citations

References	Title	Citation	Document type
[35]	Ecological grief as a mental health response to climate change-related loss	342	Article
[36]	Climate change and mental health: risks, impacts and priority actions	218	Article
[37]	The impact of climate change on mental health: A systematic descriptive review	216	Review
[38]	The early psychological impacts of the deepwater horizon oil spill on Florida and Alabama communities	137	Article
[39]	Climate change threats to family farmers' sense of place and mental wellbeing: A case study from the Western Australian Wheatbelt	106	Article
[40]	From anger to action: Differential impacts of eco-anxiety, eco-depression, and eco-anger on climate action and wellbeing	97	Article
[41]	Differentiating environmental concern in the context of psychological adaption to climate change	95	Article
[42]	Unpleasant and pleasant memories of intensive care in adult mechanically ventilated patients-Findings from 250 interviews	83	Article
[43]	Mapping the solastalgia literature: A scoping review study	80	Review
[44]	Embodied experiences of environmental and climatic changes in landscapes of everyday life in Ghana	69	Article
[45]	Addressing mental health in a changing climate: incorporating mental health indicators into climate change and health vulnerability and adaptation assessments	66	Review
[46]	Reef Grief: Investigating the relationship between place meanings and place change on the Great Barrier Reef, Australia	59	Article
[47]	Climate change and mental health	58	Article
[48]	Impacts of family and community violence exposure on child coping and mental health	58	Article
[49]	Anxiety, worry, and grief in a time of environmental and climate crisis: A narrative review	57	Review; Book Chapter
[50]	Climate change and mental health: A scoping review	50	Review
[7]	Eco-anxiety and environmental education	50	Article

4. CONCLUSION

This bibliometric analysis set out to chart the research landscape on ecoanxiety and mental health. In terms of publication volume, the study reveals a marked uptrend, with outputs exponentially increasing over the past decade. This aligns with the first research aim of assessing publication trends over time. Regarding geographic distribution, the analysis found research concentration in Western nations, indicating a need for greater diversity. This addresses the second aim of determining which countries have advanced this field. In examining prominent themes, climate change featured strongly, though investigations have expanded to diverse environmental stressors. The analysis of frequently used keywords provides insights relevant to the third research aim on recurring motifs. Finally, the most cited publications spanned topics from ecological grief to climate change impacts, offering a knowledge base to build upon.

Overall, this review demonstrates that while scholarship on ecoanxiety is gathering momentum, significant gaps remain. Broadening interdisciplinary and cross-cultural research will be critical to support vulnerable populations worldwide. Translating findings into psychological practices and policies can help mitigate ecoanxiety's mounting toll. As environmental threats escalate globally, understanding and alleviating the ensuing psychological distress will only grow more urgent. This bibliometric study provides a crucial foundation to inform future research directions and collaborative efforts across disciplines and nations. Charting the evolution of this emerging field is a vital step toward comprehensive solutions sensitive to local contexts across the globe.

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