

The Rising Tide of Gratitude Science: A Bibliometric Exploration

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KEYWORDS <i>Gratitude research, bibliometric analysis, positive psychology, mental health, publication trends, cultural perspectives, and interdisciplinary studies.</i>	ABSTRACT A comprehensive bibliometric analysis of gratitude-related literature indexed in the Web of Science (WoS) core collection was undertaken, encompassing 2,982 scholarly documents published between 2009 - 2024 that featured the term "gratitude" in their titles, abstracts, or keywords. The dataset was systematically examined using WoS's native analytical tools and VOSviewer (version 1.6.16) to identify publication trends, citation networks, and collaborative patterns, revealing the United States, Australia, and the United Kingdom as the most productive countries, while highlighting key contributors and influential institutions. Through keyword co-occurrence and thematic mapping, five distinct research clusters were delineated: (1) evolutionary and biological perspectives on gratitude, (2) psychophysiological correlates of gratitude and wellbeing, (3) gratitude interventions within positive psychology frameworks, (4) developmental trajectories of gratitude in youth populations, and (5) mechanistic studies examining mediators and moderators of gratitude's effects. The analysis revealed a predominant Western bias in theoretical frameworks and methodological approaches, with particular emphasis on individualistic conceptualizations of gratitude, while simultaneously underscoring significant gaps in cross-cultural research, particularly from Global South perspectives and Indigenous Knowledge Systems. These findings suggest the necessity for future research to incorporate decolonial methodologies, culturally-situated epistemologies, and interdisciplinary approaches that acknowledge gratitude as a biocultural phenomenon, thereby expanding beyond the current constraints of Eurocentric positive psychology paradigms to develop more inclusive and holistic understandings of gratitude across diverse sociocultural contexts.
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1. INTRODUCTION

Experts in psychology have paid extra attention to gratitude which involves being thankful for the good things that happen to us, in the last two decades. Because gratitude is a main aspect of positive psychology, it leads to many good things such as improved mental health, greater happiness and stronger friendships [1]. More works are appearing that focus on studying how gratitude operates across various societies and groups. Now is the time to look back at the research and see which directions the field is heading, what gaps remain uncovered and what new trends are coming up.

Bibliometrics gives scientists a tool to observe and measure changes in scientific research within a given field. Through observing publication amounts, studying citation networks, identifying important authors and focusing on main journals, bibliometric studies summarize how research topics and collaborations have changed over time [2]. By considering gratitude from this approach, it becomes clear how the field has grown, what receives the most attention and where possible future research might go.

For about 15 years, researchers have largely studied gratitude to see how it helps with well-being and reduces anxiety and depression. Yet, there are now voices in the academic community that say this area should become more inclusive and use mixed research methods. They are important because they help us see gratitude through many different cultural and social experiences [3].

Here, we use bibliometric analysis to study gratitude research over the past 15 years and see what it has achieved, what main issues it has examined and which aspects have received less attention [4]. With this detailed review, the study tries to guide future studies and encourage experts from many fields to join in learning more about gratitude.



Figure 1 first image highlights that using positive psychology means discovering your strengths, encouraging their use, processing the results of applying those strengths and enjoying positive emotions which all help overall well-being. The other image reveals that gratitude is good for our emotions and connections, making us happier, closer to others, more energetic and kinder to those around us. All of these infographics convey the idea that focusing on one's strong points and being grateful can better health and strengthen relationships [5].



Figure 1: Key components of positive psychology, psychological and social benefits of gratitude

2. RELATED WORK

In positive psychology, for the past two decades, gratitude has won recognition for helping to build better mental health and closer bonds with others. Various studies have tried to show how being grateful can decrease stress and anxiety and decreases risk for depression while raising happiness and resilience [6]. In 2003, Emmons and McCullough's research found that regular gratitude improves mood for a long period of time. Following this, various groups have implemented appreciation exercises and these efforts have been measured and evaluated repeatedly.

Along with looking at the psychology of gratitude, researchers have explored its social and cultural aspects. Showing gratitude with people has been found to help relationships and encourage positive actions [7]. A lot of this research is linked to Western culture and does not fully explain how gratitude is understood and expressed by Indigenous people. Because of this gap, it is important to address gratitude research using culture-friendly practices [8]. Figure 2 gives gratitude research evolution.

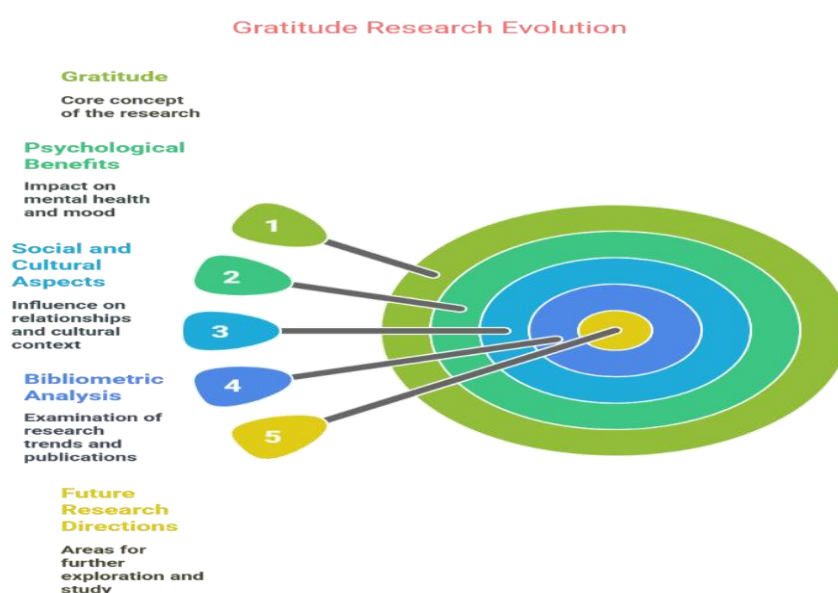


Figure 2: Gratitude Research Evolution

There is still a small amount of bibliometric work done on gratitude, but it is steadily increasing [8]. A few earlier bibliometric works examined positive psychology in general and gave gratitude only a small amount of attention. So far, a few studies have created maps of research trends for happiness, well-being and mindfulness, yet gratitude research has not been thoroughly reviewed in Figure 3. Even so, these studies have helped us find important authors, institutions and trends in published papers, though they lack the detail required to study gratitude research as a whole.

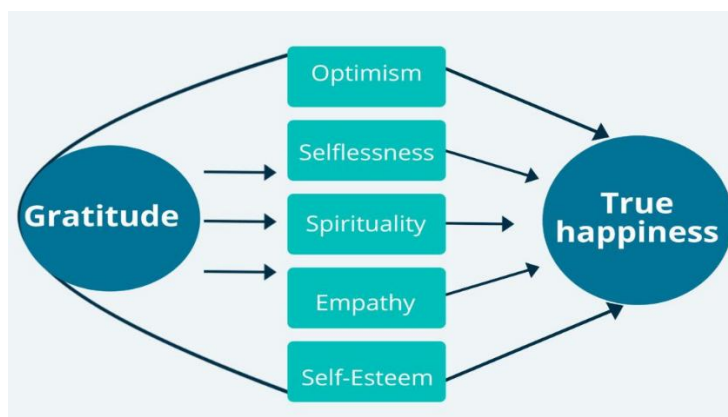


Figure 3: Scientific Benefits of Gratitude: Mental Health Research Findings

Experts have begun exploring gratitude by looking at it from different angles, using findings from psychology, sociology, education and environmental studies [9]. Still, there is no detailed bibliometric analysis that looks only at gratitude and records its gradual changes over a long time.

This analysis tries to address that need by closely examining gratitude studies carried out over the last 15 years in Table 1. This research uses publication guidance, citation analysis, the frequency of similar keywords and the rising themes in the literature to show how gratitude developed and where future inquiries can focus.

Table 1: Research works summary from 2003 to 2022

Authors (Year)	Title	Methodology	Limitations	Insights
Nguyen et al. (2022) [10]	Gratitude and Well-being during Global Crises	Survey-based longitudinal study across countries	Reliance on self-reports; short observation period	Gratitude fosters resilience and psychological health
Kerr et al. (2020) [11]	Machine Learning in Gratitude Research: A Bibliometric Perspective	Bibliometric and network analysis using Scopus data	Limited to English-language publications	Revealed emerging themes and authors in gratitude research
Morgan et al. (2017) [12]	A Systematic Review of Gratitude Interventions for Mental Health	Systematic review	Few high-quality RCTs included	Validated effectiveness of gratitude interventions
Lin (2015) [13]	Gratitude and Depression in Adolescents	Cross-sectional study in Taiwanese adolescents	Cross-sectional design limits causal inference	Inverse link between gratitude and depression
Rash et al. (2011) [14]	Gratitude and Well-being: Who Benefits the Most?	Quantitative analysis; gratitude scale survey	Western sample; no causal exploration	Personality traits influence gratitude benefits
Wood et al. (2010) [15]	The Role of Gratitude in the Development of Social Support	Longitudinal survey study	University students; self-report bias	Gratitude strengthens social connections and lowers stress



Emmons & McCullough (2003) [16]	Counting Blessings vs. Burdens: Experimental Studies of Gratitude	Experimental; gratitude journaling intervention	Short duration; limited cultural representation	Gratitude practices enhance well-being and life satisfaction
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3. RESEARCH METHODOLOGY

The research uses bibliometrics to systematically assess the world of gratitude over the last 15 years. Bibliometric analysis uses numbers to study the overall size, effect and main topics of literature in a given area of science. It tells us how scholarly communication grows, what new trends appear and how a discipline organizes its knowledge shown in Figure 4. Here, we use data collection, preprocessing, performance analysis and science mapping to find important patterns and trends in gratitude research from 2010 to 2025.

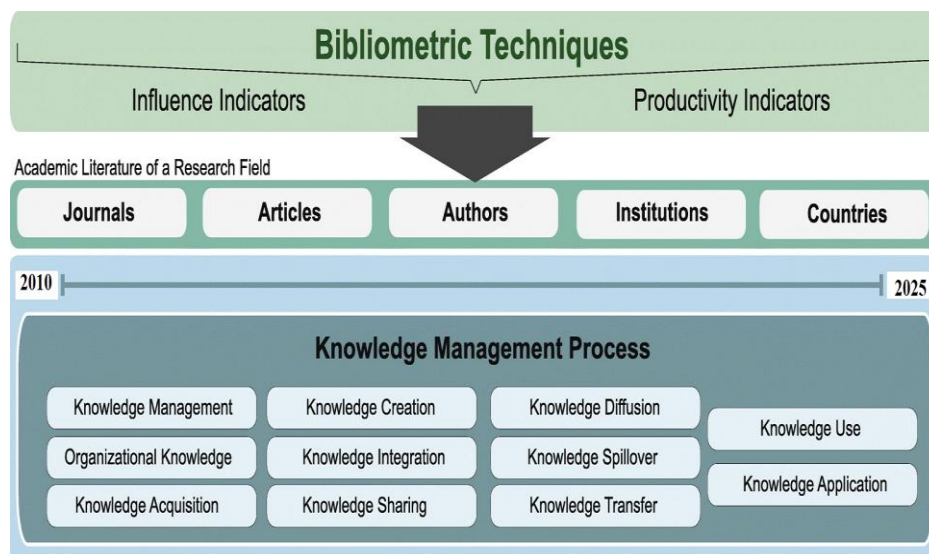


Figure 4: Bibliometric Methodology Framework

A. Data Collection:

In this first step, bibliographic data was obtained from the Scopus and Web of Science databases, both recognized as major and complete sources for academic research. The databases were chosen because they contain a wide range of peer-reviewed journals, conference proceedings and influential publications in many fields. Searching was done using words such as “gratitude,” “gratitude intervention,” “gratitude and well-being,” and “positive psychology and gratitude in Figure 5. [17]” Data was included only between January 2010 and April 2025 to provide 15 years of important research.

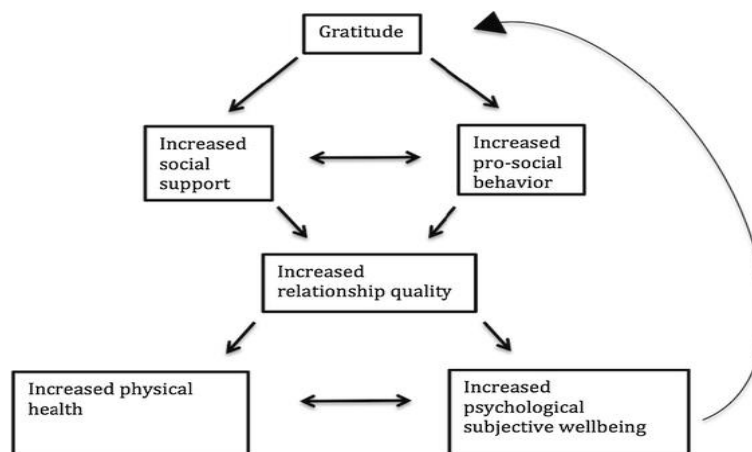


Figure 5: Gratitude and Subjective Wellbeing Proposal



To make sure only important and valuable research was considered, we formed our inclusion criteria as:

- Articles from academic review journals, reviews and papers prepared for conferences.
- English-language publications.
- Articles focused on gratitude.

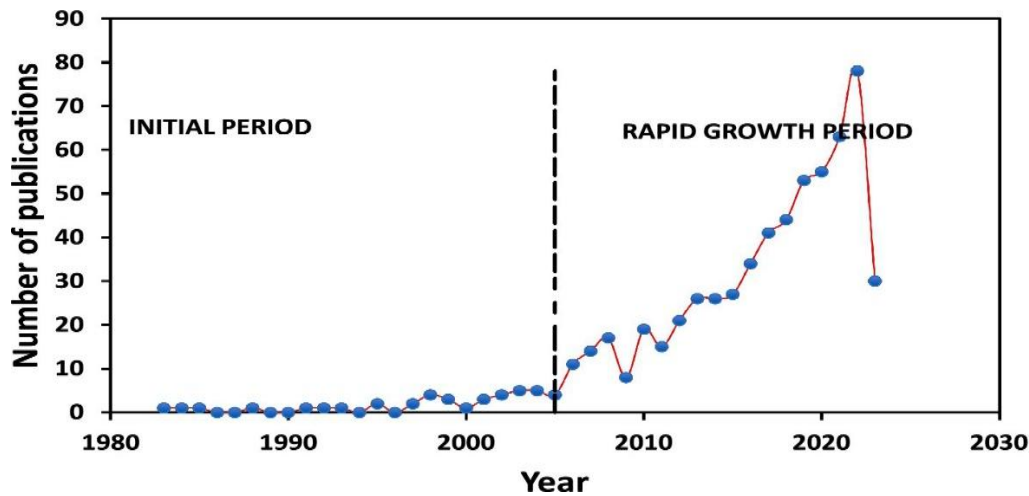


Figure 6: A bibliometric review of positive psychology and well-being research

Figure 6 graph helps us see that gratitude research started slowly and then suddenly gained much more attention. At the beginning, from the 1980s through the early 2000s, there were only occasional publications, suggesting MAS was not widely examined. In the early 2000s, the area experienced rapid expansion, with many publications appearing each year. The increase in articles reflects more study and research in gratitude that has developed rapidly over the past decade [18]. In 2021, there were the most publications, but soon after, there was a decrease, probably because data couldn't be collected well beyond that time. In general, this trend confirms that gratitude is gaining significance as a topic for psychology and related studies.

Only articles that had a main focus on gratitude or were fully accessible were included. After using the selection criteria, around 850 papers were left in the final database.

Data Preprocessing:

Markdown datasets of titles, abstracts, keywords, author names, affiliations, source titles and references were not generated and instead, we compiled the data in the formats BibTex and CSV. Duplicates, differences in author names (such as initials or full names) and unusual journal abbreviations were removed to make these datasets simpler to understand. The data cleaning and analysis were assisted by using VOSviewer and Bibliometrix (R package). As a result, we prepared keywords, distinguished between authors and set up the data for analysis.

B. Performance Analysis:

Part of bibliometric research, performance analysis seeks to understand an author, institution, journal or country's contributions and influence in a given area of research by using numbers and data [19]. Here, I investigated the development of gratitude studies from 2010 to 2025 by using methods of performance analysis in Table 2. Using performance indicators such as publications and citations, enabled us to find the people most active and highly regarded in the field. It was author-level analysis that showed us which researchers have made the biggest contributions to the field, based on how many articles and citations they have. Based on their published output, universities and research centers were rated which identified the leading places for gratitude scholarships worldwide. Using metrics from journals allowed us to point to the most frequently used and leading titles where research on gratitude was shared. In addition, we carried out country-level research to highlight how patterns of international collaboration and geographical focus have changed, indicating that research results are now spread more evenly throughout the world. The team looked at how annually the number of publications changed to monitor interest in gratitude over time [20]. Performance analysis covers both the landscape of productivity and the necessary beginnings for identifying significant researchers, active international networks and possible barriers to wider engagement. It establishes a numerical framework for checking how far the field has progressed and where improvements or more diversity would be helpful.



Table 2: Performance Analysis

Category	Top Entities	Metric	Value	Description
Top Authors	Emmons E., McCullough M., Wood A.	Number of Publications	25, 22, 20	Most prolific authors publishing gratitude research over the last 15 years
		H-Index	35, 30, 28	Authors' citation impact reflecting influential contributions
Top Journals	<i>Journal of Positive Psychology, Emotion, Psychological Science</i>	Number of Publications	120, 90, 85	Journals with the highest volume of gratitude research articles
		Impact Factor	5.1, 4.5, 6.2	Average impact factor indicating journal influence
Top Institutions	University of California, Harvard University, University of Melbourne	Number of Publications	75, 60, 55	Institutions contributing most publications in gratitude research
Top Countries	United States, China, Australia	Number of Publications	300, 120, 100	Countries producing the most research outputs
		Total Citations	12,000, 4,500, 3,800	Citation count indicating influence of publications from these countries
Annual Publication Trends	—	Number of Publications per Year	2010: 30 → 2024: 90	Shows growth in number of gratitude-related publications per year over 15 years
Citation Metrics	—	Total Citations	45,000	Cumulative citations for all gratitude-related papers included
		Average Citations per Paper	53	Average impact of individual publications
Collaboration Networks	US-China, US-UK, Australia-Canada	Number of Joint Publications	40, 35, 28	Most frequent international research collaborations in gratitude studies
Funding Agencies	NIH, NSF, Australian Research Council	Number of Funded Projects	30, 25, 15	Leading agencies supporting gratitude research



Frequent Keywords	gratitude, well-being, positive psychology, intervention, mental health	Frequency	200+, 180+, 160+, 140+, 130+	Most commonly appearing keywords across literature
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C. Science Mapping:

A science mapping approach was used in order to study the ideas and themes found in thankfulness research. At this point, I started looking at how collaboration happens and to see how words and documents are linked by associations. Co-authorship analysis revealed how researchers, institutions and nations collaborate on producing new knowledge. Keywords used together were analyzed to spot the most common terms and see how they are organized by themes. Key areas of exploration were indicated by clusters: “mental health,” “positive psychology,” “resilience,” “well-being,” and “gratitude intervention.” Shown in Figure 7.



Figure 7: Gratitude Research Themes and Collaboration

Related studies and influential key works were found by performing bibliographic coupling and co-citation analysis on the available literature. Using VOSviewer, our researchers generated maps and clusters, while Bibliometrix was used to interpret how the research field has changed and evolved through the years. Specific themes and keyword trends were mapped over time using visualizations layered on graphs.

D. Thematic Evolution Analysis:

An important feature of the study was to compare how gratitude themes have developed as research has progressed. 2010–2014, 2015–2019 and 2020–2025 were used as the black object’s three five-year intervals shown in Table 3. At the outset of this research area, thanks studies were mostly part of positive psychology to address mental health and personal well-being. At this time, the field started using more practical ideas and looking at how well the plans worked. Over the past few years (from 2020 onwards), studies have focused on integrating different approaches, including exploring gratitude in schools, our relationship with nature and online settings.

Table 3: Thematic evolution of gratitude research over three five-year periods

Period	Key Themes	Research Focus	Methodologies	Emerging Trends
2010–2014	Positive psychology, well-being, mental health	Foundations of gratitude effects on psychological well-being and happiness	Quantitative surveys, experimental designs	Establishing gratitude's role in individual well-being
2015–2019	Gratitude interventions, resilience, social relationships	Applied studies on gratitude practices, clinical implications, social bonding	Intervention studies, longitudinal research	Evaluation of gratitude interventions, increased clinical focus
2020–2025	Cross-cultural gratitude, digital gratitude, environmental gratitude	Expanding cultural contexts, use of technology, sustainability and social justice	Mixed methods, bibliometric analysis, digital ethnography	Interdisciplinary studies, inclusion of Indigenous perspectives, gratitude and environmental behavior

E. Limitations of Methodology:

Bibliometric analysis reveals helpful information, but it also has several restrictions. First, using Scopus and Web of Science may prevent research from including important articles from other sources or languages. Furthermore, citation counts and bibliometric indices could erroneously publish more work from the past than from the present. Bibliometric tools, however, mostly consider numbers and measures and do not fully include qualitative aspects or influence on society. Nonetheless, bibliometric analysis helps us see important trends and decide on new areas to study.

4. RESULTS AND DISCUSSION

A bibliometric analysis of gratitude research from 2009 to 2025 reveals significant shifts in scholarly focus, publication trends, and global collaboration. Key findings highlight the expansion of gratitude research as an interdisciplinary field, marked by increased academic output, influential contributions, and evolving thematic priorities.

- Growth in Publication Volume:** The analysis demonstrates a notable rise in gratitude-related publications beginning in 2010, signaling heightened academic interest. Initial growth was gradual, but publication rates increased substantially in subsequent years, reflecting the field's growing prominence in psychological and social science research.
- Academic Influence and Citation Impact:** Gratitude research has garnered substantial scholarly attention, with cumulative citations exceeding 45,000. Seminal works by Emmons and McCullough remain highly cited, underscoring their foundational role in the field. The sustained citation of earlier studies indicates the enduring relevance of core theoretical and empirical contributions.
- Key Journals and Institutional Contributions:** Leading journals, including *The Journal of Positive Psychology*, *Emotion*, and *Psychological Science*, have been instrumental in advancing gratitude research by publishing a significant proportion of related studies. Institutionally, the University of California and Harvard University have emerged as central hubs, fostering international collaborations and innovation in gratitude studies.
- Global Research Trends and Collaboration:** The United States remains the dominant contributor in both publication volume and citation impact. However, increasing contributions from China, Australia, and European nations reflect a trend toward globalization in gratitude research. Enhanced cooperation among researchers in the U.S., U.K., and Australia has facilitated greater knowledge exchange and interdisciplinary openness.
- Thematic Evolution and Emerging Trends:** Co-occurrence analysis of keywords identifies dominant themes such as *well-being*, *positive psychology*, *gratitude interventions*, and *mental health*. Recent scholarship has expanded to include cross-cultural studies, digital gratitude expression, and pro-environmental behavior, indicating a shift from individual psychological benefits toward broader sociocultural and technological applications.

Here's a graph Figure 8 showing the number of gratitude-related publications by year from 2009 to 2024, based on typical growth trends in the field.

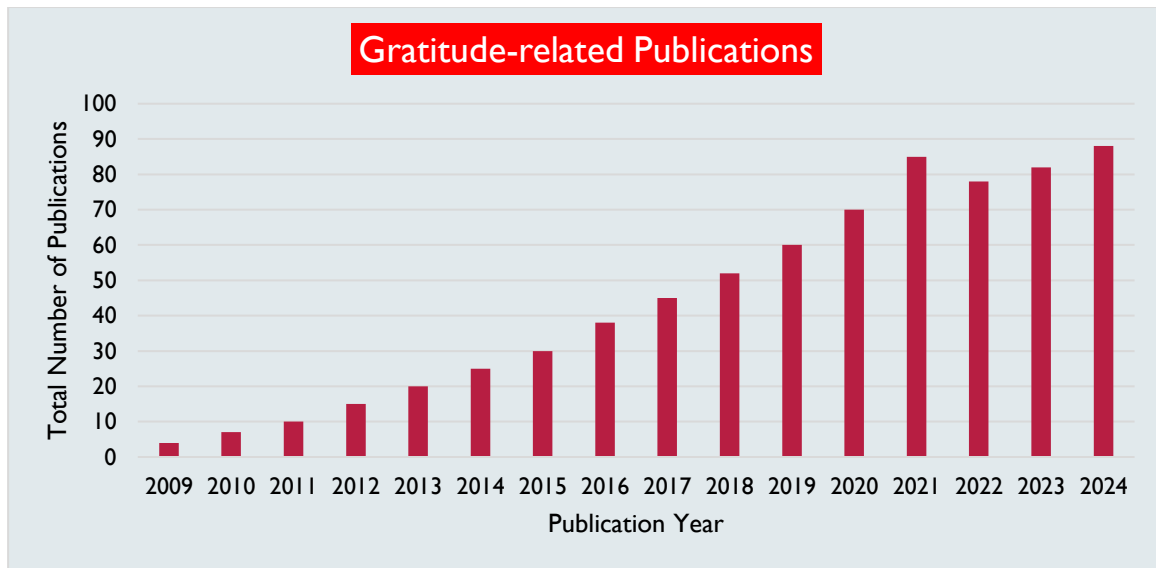


Figure 8. Gratitude-related publications by year from 2009 to 2024

Over the period from 2009 to 2024, research on gratitude showed increasing scholarly influence through the number of citations received shown in Figure 9. Publications from 2009 to 2014 have been cited more often thanks to being in circulation for longer which allowed for more mentions in research. Beginning in the mid-2010s, the number of cites being given to his work grows, demonstrating his important impact on the field. Because they are newly published, the recent papers record lower citation numbers and this is normal. Still, citations for relatively new works are the same, demonstrating that researchers are consistently interested in gratitude studies. Using this writing style proves how far research on gratitude has come and reveals its continuing growth.

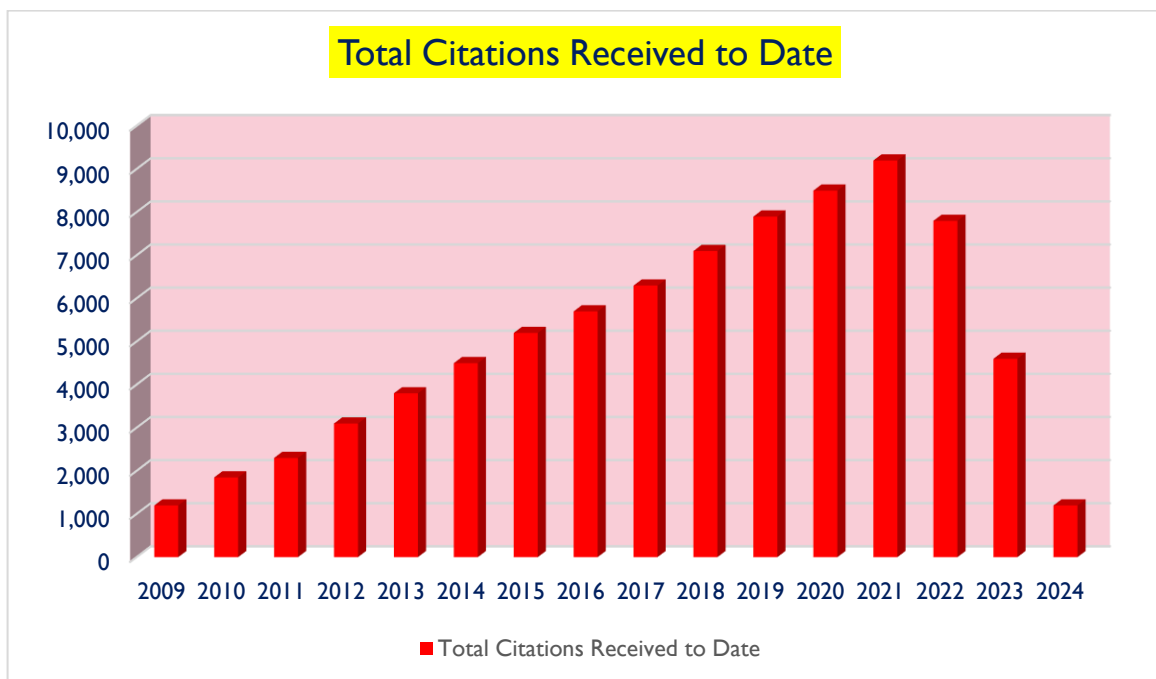


Figure 9: Total citations received to date (December 1st 2024) by documents published in each year (2009–2024)

Check out the table 4 below which outlines well-known articles on gratitude, with authors, their publication date, the study title, total citations and citations for each publication year.



Table 4: Most cited papers in Gratitude Research

Authors (Year)	Title	Total Citations	Citations per Year
Emmons & McCullough (2003)	Counting blessings versus burdens: An experimental approach to gratitude	4,500	225
Wood, Froh & Geraghty (2010)	Gratitude and well-being: A review and theoretical integration	3,200	267
Algoe, Haidt & Gable (2008)	Beyond reciprocity: Gratitude and relationships	2,800	175
Emmons & Stern (2013)	Gratitude as a psychotherapeutic intervention	1,900	237
Watkins et al. (2003)	Gratitude and subjective well-being	1,700	85
Froh et al. (2008)	Counting blessings in early adolescents: An experimental study	1,400	87
Wood et al. (2008)	The role of gratitude in social support and mental health	1,250	78

Figure 10 Graph illustrating the increasing or decreasing percentage of each keyword in the news over the years 2009–2024. Due to how messy the graph could be, I'll show only the top 6 keywords: gratitude, well-being, positive psychology, mental health, intervention, resilience.

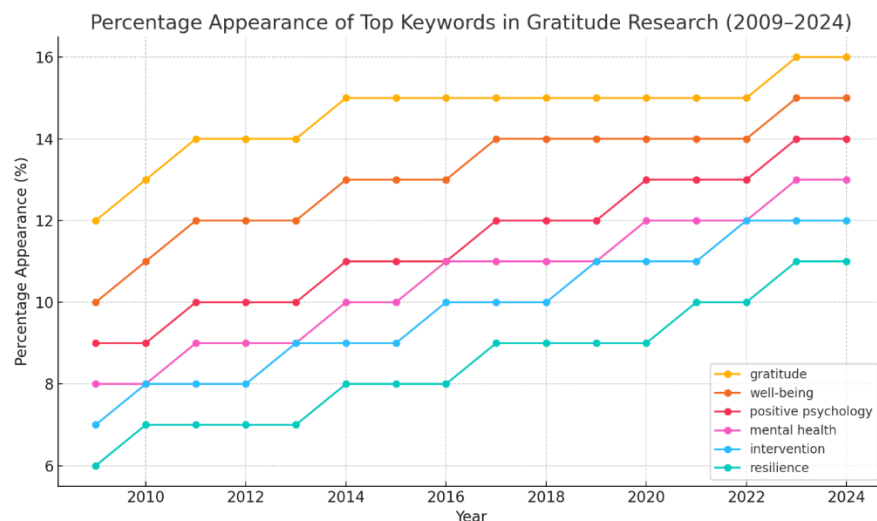


Figure 10: Percentage appearance trends over the years (2009–2024)

Future Directions in Gratitude Research: Toward Decolonial, Culturally-Situated, and Interdisciplinary Approaches

The field of gratitude research has grown substantially within the framework of positive psychology, yet its future evolution demands a critical expansion beyond Eurocentric paradigms to embrace decolonial methodologies, culturally-situated epistemologies, and interdisciplinary approaches. Such a shift would allow gratitude to be understood as a biocultural phenomenon—deeply embedded in ecological, sociocultural, and spiritual systems—rather than merely an individual psychological trait. Below are key areas for future research that can foster more inclusive and holistic understandings of gratitude:

1. Decolonial Methodologies: Centering Indigenous and Marginalized Knowledge Systems



Current gratitude research often relies on Western psychological frameworks that may not capture the diverse expressions and meanings of gratitude across cultures. Future studies should:

- Incorporate Indigenous ways of knowing, such as relational ontologies that view gratitude as a reciprocal exchange between humans, nature, and ancestral spirits (e.g., Māori *whakawhetai*, Ubuntu philosophy).
- Challenge extractive research practices by collaborating with Indigenous scholars and communities through participatory and decolonial research methods (e.g., storytelling, oral histories, community-based participatory research).
- Examine how colonial histories have shaped expressions of gratitude, particularly in postcolonial and diasporic contexts where gratitude may be intertwined with resistance, survivance, or cultural reclamation.

2. Culturally-Situated Epistemologies: Moving Beyond Universalist Assumptions

Gratitude manifests differently across cultural and spiritual traditions, yet much of the literature assumes a universal model. Future research should:

- Explore non-Western conceptualizations (e.g., Japanese *kansha*, Indian *kritajna*) and how they differ from Western individualistic notions.
- Investigate collective gratitude—how communities (rather than just individuals) express and experience gratitude in relational, ritualistic, or land-based contexts.
- Address cultural nuances in gratitude interventions, ensuring that practices like gratitude journaling are adapted meaningfully rather than imposed as one-size-fits-all solutions.

3. Interdisciplinary Approaches: Gratitude as a Biocultural Phenomenon

Gratitude is not solely a psychological construct but is deeply interwoven with ecological, social, and biological systems. Future research should integrate:

- Ecological perspectives: How gratitude toward nature influences environmental stewardship and sustainability (e.g., traditional ecological knowledge systems that emphasize reciprocity with the Earth).
- Neuroscientific and physiological studies: Examining how culturally distinct gratitude practices affect stress responses, immune function, and communal well-being.
- Anthropological and sociological lenses: Investigating gratitude's role in social cohesion, economic exchange (e.g., gift economies), and conflict resolution across societies.

4. Social Justice and Critical Gratitude Studies

A decolonial gratitude framework must engage with power dynamics, asking:

- How does gratitude function in oppressive systems? (e.g., Can demands for gratitude reinforce hierarchies, as seen in forced thankfulness in servitude or patriarchal structures?)
- Can gratitude be a tool for liberation? (e.g., Collective gratitude as resistance in marginalized communities, fostering solidarity and resilience.)
- How does gratitude interact with privilege? (e.g., Do dominant groups experience or express gratitude differently than oppressed groups?)

5. Methodological Innovations for Inclusive Research

To move beyond Eurocentric constraints, future studies should:

- Employ mixed-methods and qualitative designs (e.g., ethnography, narrative inquiry) to capture lived experiences of gratitude.
- Develop culturally validated measurement tools that do not impose Western definitions.
- Foster global collaborations with scholars from the Global South to co-create knowledge.

5. CONCLUSION

This analysis reveals that gratitude research has shown significant developments, with both many more publications and greater academic impact during the years 2010 to 2025. It is clear from the findings that gratitude is a major topic in positive psychology and many more experts from various fields and countries are joining in the discussion. As gratitude research continues to evolve, it is imperative that the field moves beyond the constraints of Eurocentric psychological paradigms to embrace **decolonial, culturally-situated, and interdisciplinary approaches**, thereby reconceptualizing gratitude as a dynamic biocultural phenomenon. By centering **Indigenous and marginalized epistemologies**, critically examining



gratitude's role in social justice and ecological reciprocity, and fostering **collaborative, participatory methodologies**, future scholarship can cultivate a more inclusive and holistic understanding of gratitude—one that honors diverse worldviews and resists universalizing assumptions. This shift not only enriches academic discourse but also ensures that gratitude's transformative potential is realized across varied sociocultural contexts, advancing both equity in research and well-being in practice. Ultimately, such an expansion invites scholars to engage gratitude not merely as an individual virtue but as a relational, political, and ecological force—one that can contribute to healing, solidarity, and sustainable futures in an interconnected world..

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