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RESEARCH ARTICLE

Perspective of ecocycles for human well-being and health: A bibliometric analysis

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Abstract – The ecocycle is essential in extending the sustainable development cycle for human health and well-being. It needs to be highlighted to see what issues are behind the crossing of issues circulating so far. This research aims to explore ecocycle studies for human well-being and health during 2000-2023. A suitable bibliometric study has been conducted that visualizes the evolution and development trend of the selected studies, themes distribution, trails, keywords, and other metrics, which have been highlighted using the Biblioshiny tool derived from the R-studio package. The results found that the ecocycle for human well-being and health study has fluctuated in its evolution of publication trends, but impacts have been addressed each annual year. Prescott S.L. is a scholar who actively publishes papers, and an article by Miller K.E published in 2010 is the most cited article (n=867). The journal "International Journal of Environmental Research and Public Health" was the leading source of topics, and "University of Toronto" had the most affiliates. Furthermore, the United States served as a prolific country; trending topics such as sustainability, ecology, and mental health were among the top three. Likewise, well-being was a popular theme of research, whereby variable factors of physiology were closely coordinated. In addition, depression, inflammation, biophilosophy, and zoonosis are also featured in ecocycle studies for human well-being and health for recent publications and are expected to become future study directions.

Keywords – ecocycles, ecology, mental health, well-being, ecosystem health, social status

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1. INTRODUCTION

The term "ecocycle" has recently received renewed attention from scholars, especially those studying human health and well-being. The term ecocycle comes from the name for the ecological cycle, which refers to the evolutionary complexity of ecosystems, which means ecocycle refers to the life cycle (Hurst & Zimmerman, 1994). This attention to the ecocycle framework is based on ecological principles, which link the complexity of technical systems, people's behaviour, plan, targets, and other driving indicators (Liu *et al.,* 2014). The ecocycle concept arose because of concerns about ecological sustainability, such as human health and well-being (Burger *et al.,* 2015).

The ecocycle has been elevated as an essential sustainability issue, which promotes strategies to maximize cycle efficiency for development, ultimately ushering in a responsible era to ensure the well-being of humanity in the future (Li, 2024). It is considered that human well-being changes over time, and the life cycle of

people/products need to be highlighted to obtain standards to promote human health (Schaubroeck & Rugani, 2017).

Thus, the importance of the ecocycle suggests it should serve to both understand and evaluate life cycle development (Davies & Blik, 2015). The ecocycle, also known as the ecological cycle, is ultimately the focus of sustainable growth (Saldert, 2017), including human well-being and health. Not many have recorded the term ecocycle in a previous study, but many have referred to the ecological cycle; ecocycle studies that focus on human well-being and health need to be given an inclusive study space, where some literature illustrates that the ecocycle is a selected framework for human well-being, especially for the elderly, which is developed in the governance of the social environment to get services that can provide quality welfare for the elderly population and their health (Harris & Grootjans, 2012).

Some have featured ecocycle studies, where the term eco-cycles are a significant cluster in the study of eco-cities and urban sustainable development (Rodrigues & Franco, 2022). Ecocycle studies are also found in evaluation studies for management personnel and produce ecological cycles whose assessment is still under development in corporate ecological systems (Luo *et al.,* 2018). On the other hand, ecocycle studies focusing on human well-being and health have been highlighted. For instance, the role of parents, especially mothers, in parenting, where the ecological factor of parental presence plays a vital role in improving children's well-being and development, such as providing learning opportunities for their children (Song *et al.,* 2022). Another study has also shown the ecological relationship between the environment and farmers' well-being and mental health, which resulted in farmers' financial solid worries that impact mental health (Batterham *et al.,* 2022). Studies on the ecology of work show that stress, fatigue, and human well-being have a strong relationship with age (Hsu, 2019).

Reflecting on ecological studies on social well-being and mental health, these two dimensions consistently have an inherent interaction. Even social well-being and mental health consistently contribute to life development capabilities (Mumford *et al.,* 2023). Likewise, a study on the ecology of homelessness highlights well-being and health for social networks, which results in their ecological conditions, both their health and well-being, depending on the weather season (Anderson *et al.,* 2021). Another study trajectory that reports on the ecology of the mining environment is considered to influence health behaviour and provides worse health outcomes when reflecting on other factors, such as the consequences of socio-politics (Mactaggart *et al.,* 2018).

While previous research underlines ecocycles significance for human well-being and health, therefore, a gap exists in comprehensively mapping its connection, ecocycle, to various health and social welfare issues. This lack of research underscores the need for further exploration, and our study aims to fill this void. Employing a bibliometric approach, our research would comprehensively analyse ecocycle research, specifically focusing on its relationship to human health and well-being. This paper could map crucial themes, trace an evolution of term concepts, identify frequently by keywords, and provide valuable insights for public health and well-being initiatives.

By using bibliometrics, it is expected that this study will be able to capture all the essential terms that have been spread in the included literature and produce findings of essential terms that need to be spotlighted from ecocycle and its development from the perspective of human well-being and health so that this study will contribute to the conceptual development of the mapping of studies conducted on the issue of ecocycle and the themes distributed therein. The questions formulated in this article are:

Q1: What are the evolutionary metrics of ecocycle studies for human well-being and health during 2000-2023?
Q2: What is the network of scattered themes, terms, and keywords from ecocycle studies for human well-being and health during 2000-2023?
Q3: What are the trending topics in network studies of ecocycles for human well-being and health during 2000-2023?

2. MATERIALS AND METHODS

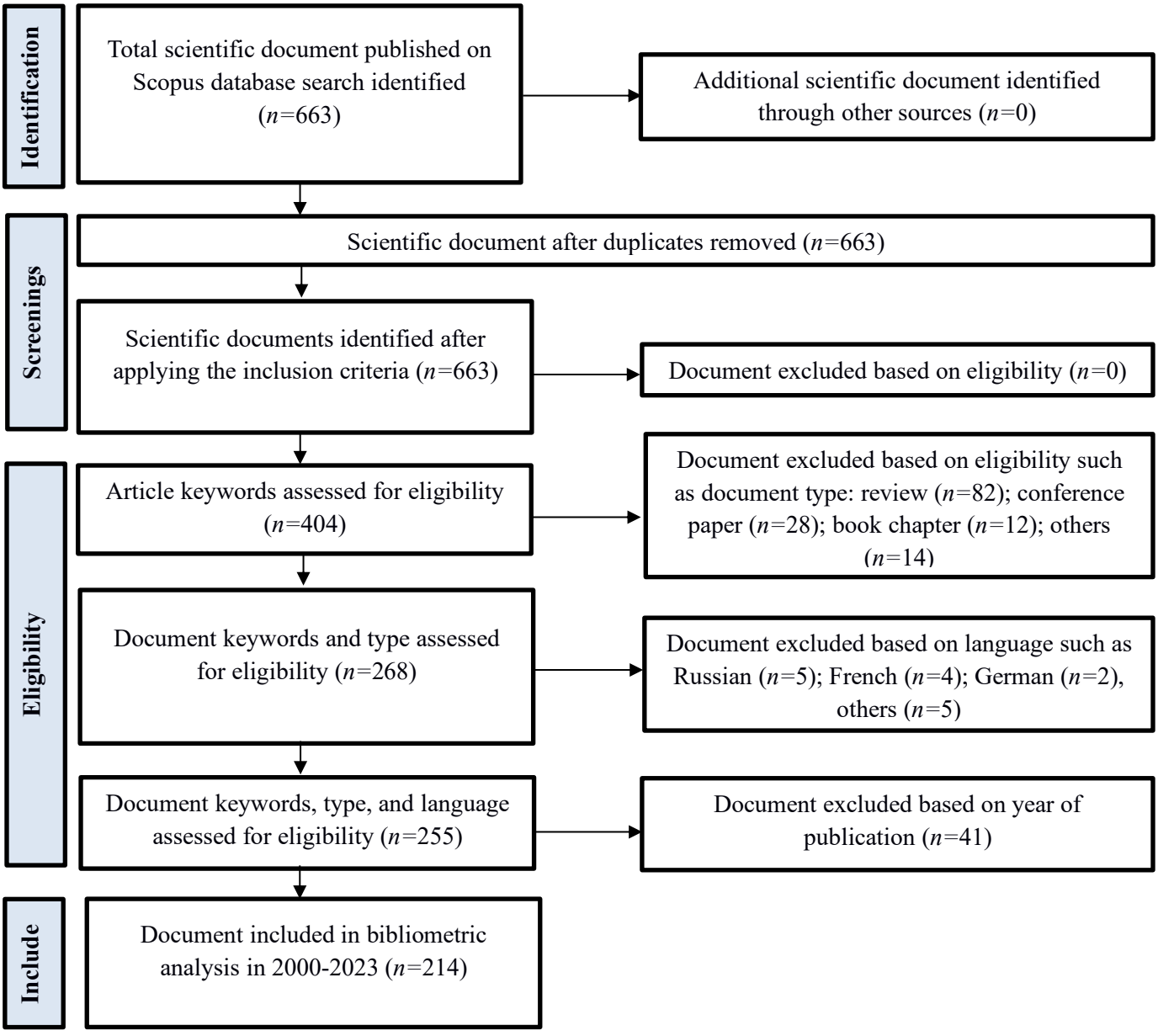
We started this work with a bibliometric approach, which represents the contribution of the reviewed studies' data and their impact on publications and trends (Ball, 2018), with several critical metrics reviewed to understand the evolution of science and the main issues, themes, and concept structures contained, this bibliometric domain is crucial to adopt to know the future research agenda as well. Therefore, we collected relevant literature from the Scopus search engine - a database with high-review quality articles (Baas *et al.,* 2020; Harzing & Alakangas, 2016), making it suitable to be sampled for knowledge mapping of a particular science (V. K. Singh *et al.,* 2021). The rationale for not utilizing other databases is that Scopus has become the database with the most comprehensive indexation and the highest quality peer-reviewed articles. For instance, Web of Science (WOS) is omitted because many articles indexed in WOS are also indexed in Scopus. As stated, Scopus is a notable resource for evaluating research results, offering a more expansive and comprehensive content repository. Furthermore, it provides profiles of individuals for all authors, institutions, and serial numbers, along with related keywords, facilitating navigation and accessibility. Additionally, the implemented impact indicators demonstrate comparable or superior performance to those provided by WOS (Pranckutė, 2021). To mitigate potential bias, we have elected to utilize Scopus as a single database, aiming to index leading scholars across all science disciplines. In this case, ecocycle for human well-being and health, we identified searches with restricted keywords to generate more relevant literature in the database.

For this study, we restricted the terms "ecocycle OR ecology AND human AND well-being AND health". The keywords we have selected are considered to represent the keywords that are scattered throughout the Scopus

database. The criteria used are highly inclusive and are designed to capture a diverse range of queries. For instance, some scholars regard the term "ecocycle" as a nexus of ecology and the cycle. Additionally, "human" and "well-being" are specifically employed to represent ecocycle studies in this context. The inclusion of these extra keywords serves to refine the search parameters further. This allows our paper objectives to be clearly defined, ensuring that only articles aligned with the intended research focus on trends in the selected field are included and then focused on "article" type documents, restricted to "English" language, and extra keywords for ecology, human, well-being, and health. Document type used "journal". In this case, there is a narrowing of the publication duration in obtaining scientific documents between 2000-2023; this timeframe was selected to ensure that the data set exhibits a clear trend toward research. The 2024 data was excluded from the analysis due to its inclusion in the current year and the potential for bias associated with the incomplete coverage of documents published in overall years.

The search formula is: TITLE-ABS-KEY (ecocycle OR ecology AND human AND well-being AND health) AND PUBYEAR > 1999 AND PUBYEAR < 2024 AND (LIMIT-TO (SRCTYPE , "j")) AND (LIMIT-TO (DOCTYPE , "ar")) AND (LIMIT-TO (LANGUAGE , "English")) AND (LIMIT-TO (EXACTKEYWORD , "Health") OR LIMIT-TO (EXACTKEYWORD , "Well-being") OR LIMIT-TO (EXACTKEYWORD , "Human") OR LIMIT-TO (EXACTKEYWORD , "Ecology")). Using the identification, screening, eligible, and included formulas can be seen in Figure 1.

Figure 1. Prisma Flowchart for Bibliometric Analysis



The final results of the review included 214 documents, which were selected and screened based on specific criteria. Documents only in the "Journal" format were chosen due to their high-quality peer review process and

alignment with a top-tier publication's standards. In comparison, documents from conferences and book chapters were deemed unsuitable and not essential for bibliometric studies (Chi, 2016; Glänzel *et al.,* 2016). The documents selected were in English, as English is the principal topic and the language most commonly utilized by academics in publications (Amano *et al.,* 2016). This approach facilitated the elimination of other language-related barriers in the analysis process and reduced the potential for bias during data analysis. Also, the 214 papers have been appropriately sampled for further analysis and selected based on the PRISMA diagram map (see Figure 1). This comprehensive selection process excluded queries that were not included in the words "ecocycle", "human well-being", and "health". Consequently, the research validity sample has been highlighted in the existing literature on ecocycles and human well-being.

A total of 214 documents were included in the study obtained on July 10, 2024, for the entire dataset of documents formulated in Bibtex and RIS formats, which were obtained using VOSViewer and Bibliometrix using R-Studio (Aria & Cuccurullo, 2017; Dervis, 2019). These two tools aim to obtain relevant information regarding bibliometric studies. Bibliometrix R-studio has obtained quantitative datasets, thematic analysis and conceptual maps, and other metrics such as three-plot analysis and word/term frequencies. For VOSViewer, we worked on visualizing the co-occurrence network of keywords for the evolution of keywords for each year of change (Van Eck & Waltman, 2019), which is to realize which terms are most used by scholars in producing science related to ecology or ecocycle for human well-being and health.

3. RESULTS AND DISCUSSION

3.1 Evolution of Document Distribution and Impact in 2000-2023 Periods

This section aims to examine the progress of ecocycle studies for human well-being and health throughout 2000-2023; it is to map out the number of publications is a particular year having the highest and lowest number of publications, also to observe the impact obtained annually, therefore this sub-chapter can provide justification of ecocycle issues studies have specific interests that released throughout the period year.

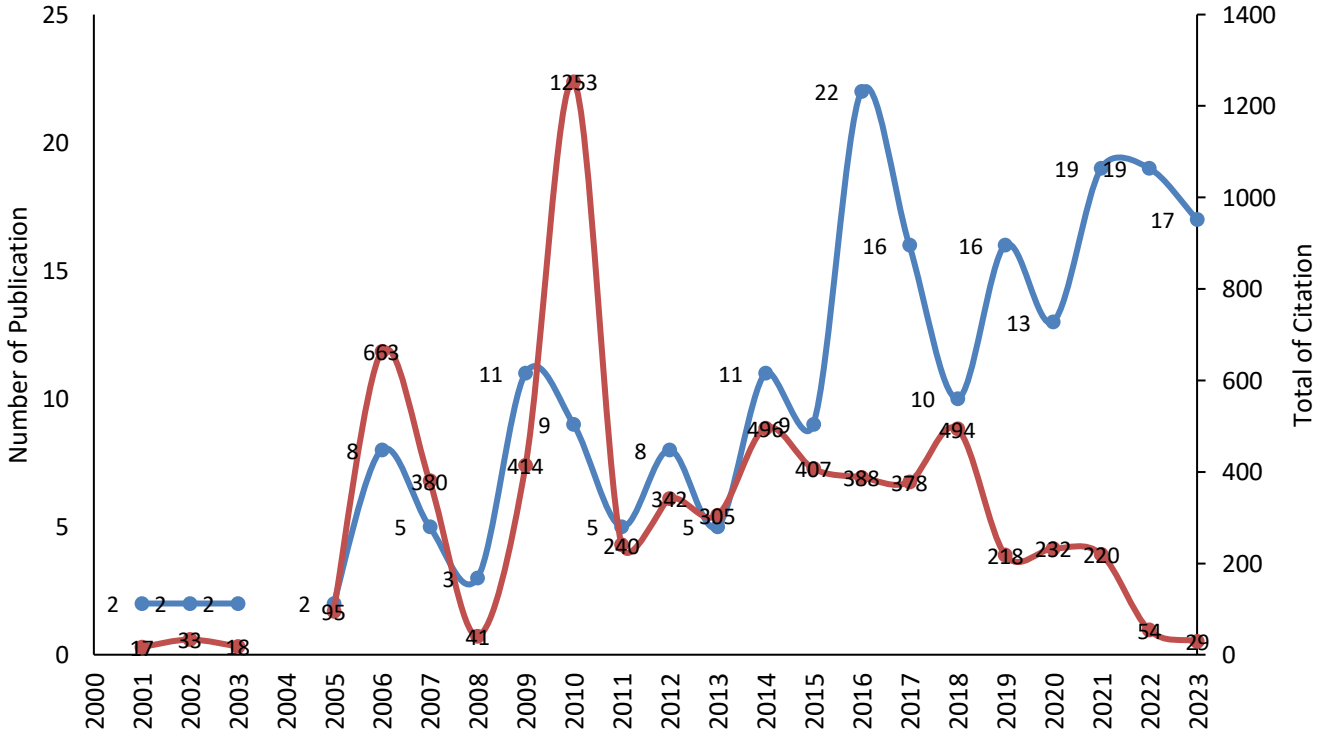


Figure 2. Publication and Citation Impact (2000-2023)
Source: Scopus, data compiled by Authors. Note: Blue is Number of Publication, and red represent for total of citations, this data gathered on July 10, 2024.

Figure. 2 represents the development of total publications of scientific articles on ecocycle for human well-being and health from 2000 to 2023, shown in blue series, along with numbers of citation impacts obtained during the period shown for the red line. Several years have highlighted its development, and losing publications in specific years is drastic. For instance, at the beginning of 2000, these publications were not recorded in the Scopus database. However, they began to appear in 2001 with a total publication of two scientific articles. However, there was a loss of release in 2004, and at its peak, the highest number of article releases was obtained in 2016 (n=22), but the most citation impact was obtained in 2010 (n=1,253), followed by 2006 with 663 citations. Data throughout

2000-2023 explicitly shows a fluctuating trend towards several publications and their impact. The last publication in 2023 had 17 articles and obtained 29 cited for the study's ecocycle for human well-being and health.

3.2 Author and Document Impact Analysis

This section showcases the most prolific authors and articles that have significantly influenced the study of ecocycles for human well-being and health. Some of the data highlighted in Fig. 3 represent scholars who share the same interest in science development, particularly ecocycles for human well-being and health perspective.

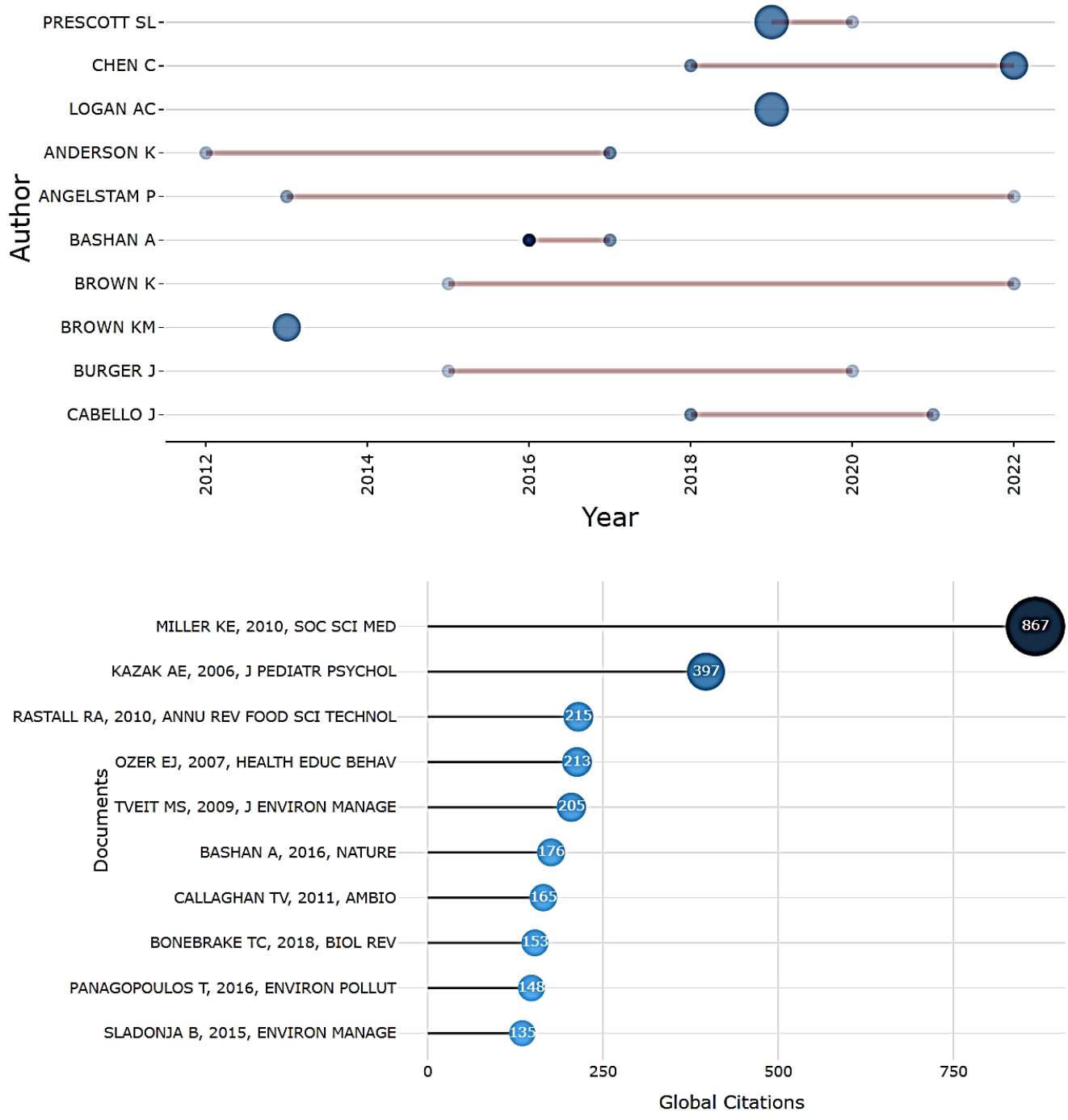


Figure 3. Authors' Production over Time and Most Global Cited Documents

Fig 3 illustrates two crucial data points in looking at scholars' productivity and the documents that impact studying ecocycles for human well-being and health. The highlight for the most active published author is Prescott SL, which has four articles, followed by Chen C and Logan AC, which have three published documents each. If we observe Fig 6, which represents Angelstam P has the longest line, it is not so with the total publications recorded as two in 2013 and 2022. So even though Prescott SL started the study in 2019, this author has produced three publications and one publication in 2020. Furthermore, there are several articles reported that have an impact on

ecocycle studies from the perspective of human well-being and health, namely Miller K.E (Miller & Rasmussen, 2010), who obtained citations (*n*=867) with the article title "War exposure, daily stressors, and mental health in conflict and post-conflict settings: Bridging the divide between trauma-focused and psychosocial frameworks", and followed by Kazak, A.E (Kazak *et al.,* 2006), who received citations (*n*=397), with the title "An Integrative Model of Pediatric Medical Traumatic Stress". The third order that obtained citations (n = 215) was Rastal RA with the title "Functional Oligosaccharides: Application and Manufacture" (Rastall, 2010), and others.

3.3 Source, Affiliation, and Country Analysis

This section presented a data analysis of the impact of ecocycle publications on human well-being and health by source, affiliation, and region of the article. It is highly illustrative to note those sources with the highest level of interest in ecocycle studies, affiliations with a strong focus on ecocycle studies, and countries that concentrate the most significant number of ecocycle studies. We classify the top ten most frequent occurrences of these data, focusing on highlighted sources, affiliations, and also countries.

Table 1. Most Productive Source, Affiliation, and Country for Ecocycle in Human Well-being and Health Studies

Source	TP	Affiliation	TP	Country	TP
International Journal of Environmental Research and Public Health	18	University of Toronto	9	United States	91
Ecohealth	10	CNRS Centre National de la Recherche Scientifique	8	Australia	34
Social Science and Medicine	6	The Australian National University	6	United Kingdom	33
Health and Place	4	The University of Queensland	6	Canada	25
Landscape And Urban Planning	4	Arizona State University	5	France	15
Science of the Total Environment	4	Griffith University	5	Germany	13
Environmental Management	3	Telethon Kids Institute	4	China	12
Environmental Monitoring and Assessment	3	University of Colorado Boulder	4	Spain	8
Ambio	2	The University of Sheffield	4	Italy	7
American Journal of Community Psychology	2	Vanderbilt University	4	Sweden	7

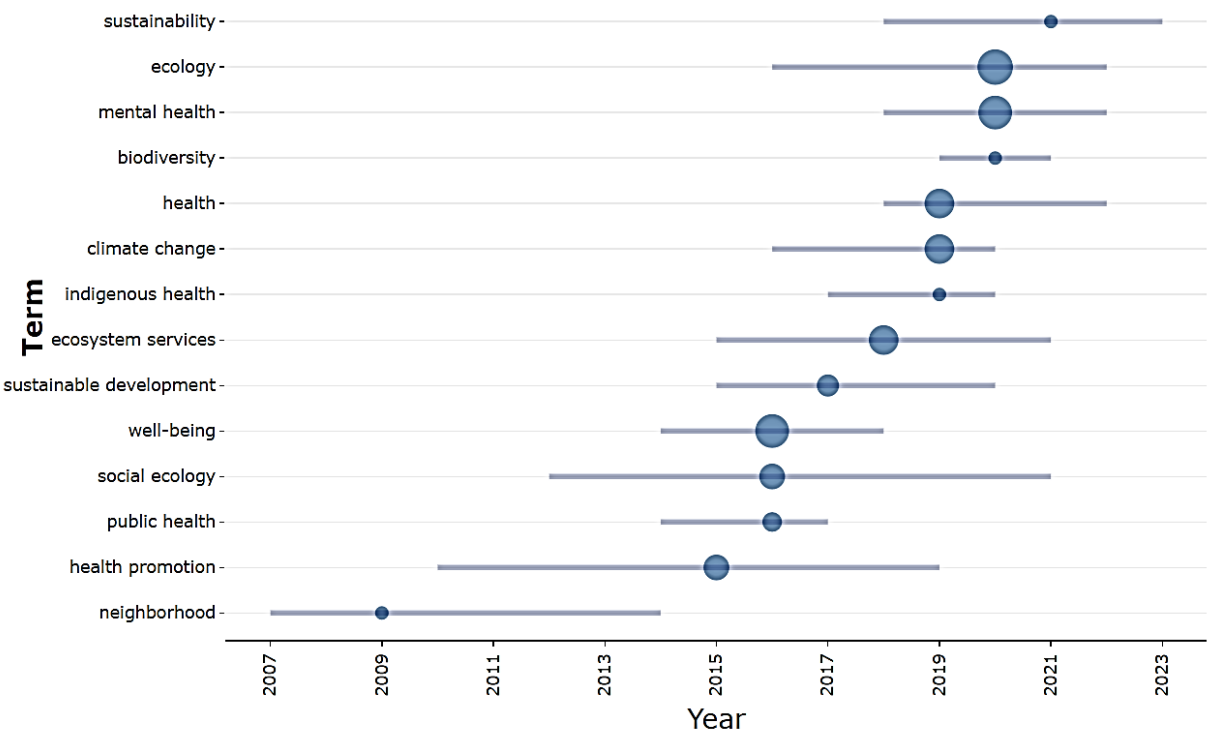
Source: Scopus, compiled by authors. Notes: Data were selected at a frequency rate of top 10 data and TP= total publications.

Table 1 reported the top ten sources that have specialized in ecocycle studies for human well-being and health, in which "International Journal of Environmental Research and Public Health" (*n*=18), it ranks the highest and has a data gap with "Ecohealth" (*n*=10), then "Social Science and Medicine" ranks third (*n*=6), "Health and Place", "Landscape and Urban Planning", and "Science of the Total Environment" have a total of four publications, "Environmental Management" and "Environmental Monitoring and Assessment" have three publications, and "Ambio" and "American Journal of Community Psychology" have two publications respectively.

Furthermore, one of the top ten affiliates that have an interest in ecocycle studies is University of Toronto (*n*=9). It is not distant from the second place "CNRS Centre National de la Recherche Scientifique" (*n*=8), and there are affiliations that are recorded to publish the number of articles six publications each, namely The Australian National University and The University of Queensland. Arizona State University and Griffith University obtained five publications each. Four affiliates earned four publications each, such as Telethon Kids Institute, University of Colorado Boulder, The University of Sheffield, and Vanderbilt University. Finally, the most prolific country for ecocycle studies was the United States (*n*=91), followed by Australia (*n*=34), and then the United Kingdom (*n*=33). Canada received 25 publications, France (*n*=15), Germany (*n*=13), while China obtained 12 publications. In contrast to Spain (*n*=8), Italy and Sweden only received seven publications.

3.4 Trend Topic of Ecocycle for Human Well-being and Health Studies

The topic trend sub-section helps analyze the findings of terms that are most concentrated in the study of ecocycle for human well-being and health. This report plays an important role and is closely related to the study, as seen in Figure 4.



Item	freq	year_q1	year_med	year_q3
ecology	18	2016	2020	2022
well-being	16	2014	2016	2018
mental health	16	2018	2020	2022
ecosystem services	12	2015	2018	2021
climate change	12	2016	2019	2020
health	12	2018	2019	2022
health promotion	9	2010	2015	2019
social ecology	9	2012	2016	2021
sustainable development	7	2015	2017	2020
public health	6	2014	2016	2017
neighborhood	5	2007	2009	2014
indigenous health	5	2017	2019	2020
biodiversity	5	2019	2020	2021
sustainability	5	2018	2021	2023

Figure 4. Trend topic by term in the selected period

Figure 4. displays the topic trend data seen throughout the selected years with the highest number of frequencies, where the term "ecology" obtained the highest frequency (*n*=18), where this word was frequently used in publications from 2016 to 2022 and peaked in 2020. Then, the term "well-being" has the second highest frequency along with "mental health" (*n*=16), but the peak of the term distribution is different, where "well-being" was introduced in 2016, and "mental health" was found in 2020. For "ecosystem services", "climate change", and "health" are in third place with a frequency of 12, where the peak of these terms is in 2018 for "ecosystem services", while "climate change" and "health" were both in 2019. Next, "health promotion" and "social ecology" are at a frequency of nine, while "sustainability development" (*n*=7), as well as "public health" (*n*=6). The term "neighborhood" (*n*=5) started to appear in frequency from 2007 to 2014 and peaked in 2009, this was the most frequent term of the others that appeared. Then, "indigenous health", "biodiversity", and "sustainability"

each had five frequencies with different peaks in 2019, 2020, and 2021 respectively.

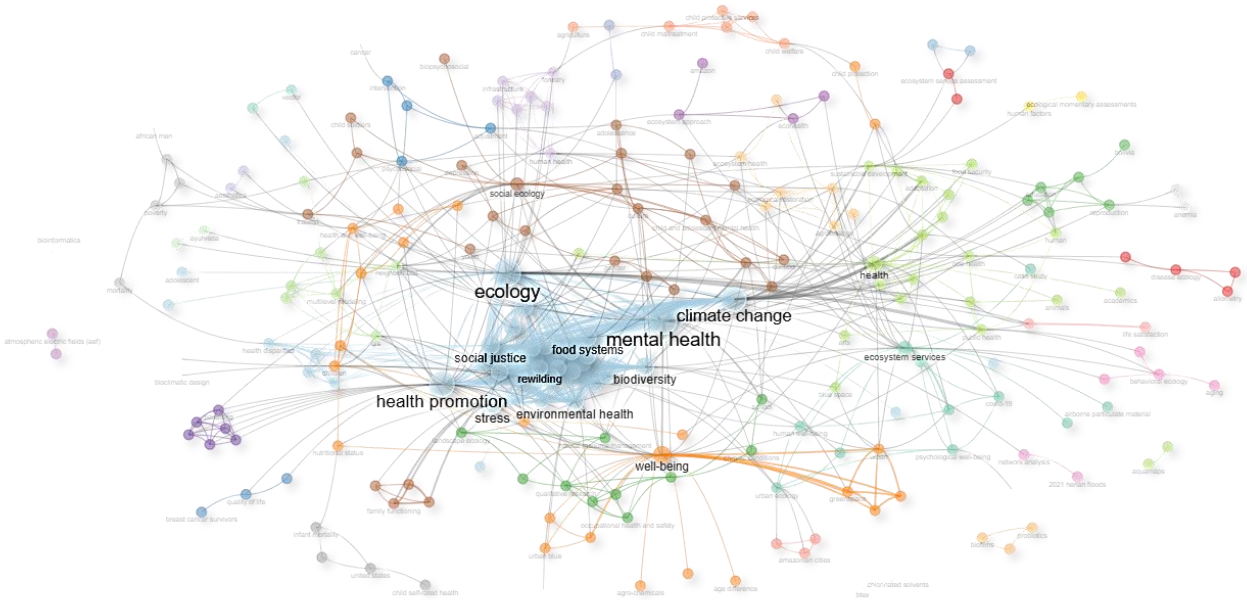
3.5 Word Cloud of Ecocycle for Human Well-Being and Health Studies

Figure 5. This section displays the word cloud spread in the ecocycle study for human well-being and health, where the words mental health, ecology, well-being, ecosystem services, climate change, health promotion, and sustainable development play an essential role in the distribution of the ecocycle study, this means that these words have significance in the ecocycle study. Therefore, studies on this issue with these words will often be found in some scientific literature-related ecocycle for human well-being and health.

Figure 5. Word Cloud Analysis for Ecocycle for Human Well-being and Health

3.6 Thematic Network and Map Analysis

This section of the report provides the distribution of thematic networks concurrently mapped to its contribution to the positioning of specific themes. In this case, Figure 6 displays have been distributions of theme networks of ecology, climate change, mental health, health promotion, environmental health, well-being, stress, social justice, food system, and biodiversity that have alluded to each other in generating a bounded theme network, and resulting in other themes scattered in the ecocycle study.



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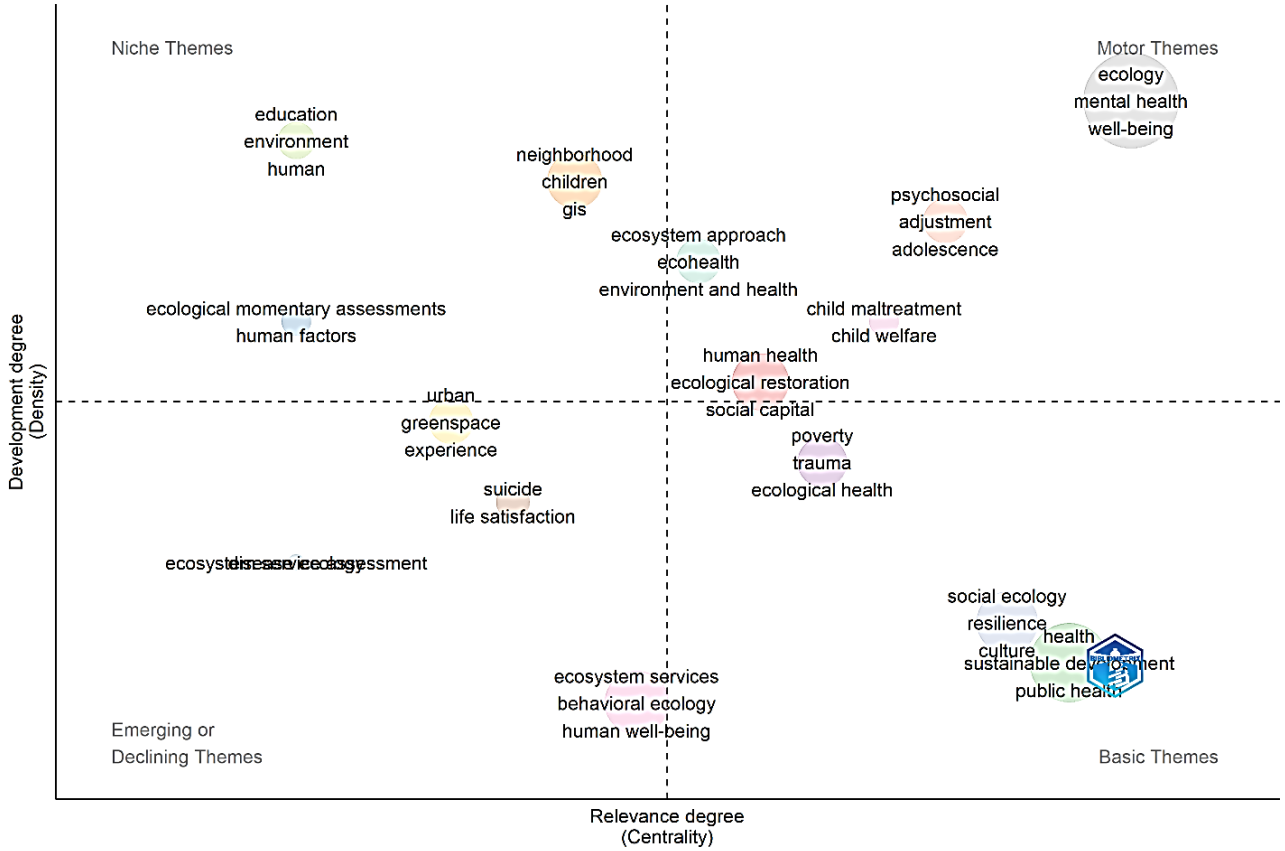

Figure 6. Co-occurrences Thematic Network of Ecocycle for Human Well-being and Health Studies

Furthermore, there are four theme highlights from several sides: motor themes, niche themes, basic themes, and emerging or declining themes. As stated by (Alkhammash, 2023), motor themes represent a high centralization of issue density, where the distribution of themes in this section is well-developed and essential in research. Then, Niche themes have low centrality and high density, which means that the themes listed in the section have limited relevance. Subsequently, the basic themes present basic themes that have high centrality but low density. In fact, that themes distributed in the basic theme section have interdisciplinary segments in the study.

Finally, emerging or declining themes indicate that the themes displayed have low centrality and low density, meaning that they are minimally and marginally developed. Overall, in this case, the movement of themes to the right towards the top indicates a significant trend, and the movement towards the bottom left indicates a declining trend. Explicitly, Fig. 7 shows that themes that have high centrality and relevance to the topic of ecocycle studies for human well-being and health are those in motor themes such as ecology, mental health, and well-being, followed by psychosocial, adjustment, and adolescence, as well as child maltreatment and child welfare, followed by human health, and ecological restoration. Equally essential but with low density is theme of education, environment, and human, followed by neighborhood, children, and GIS. There is a distribution of Basic themes, although low centrality, but topics that are in basic theme are crucial to be reviewed in an inter-disciplinary study, such as poverty, trauma, ecological health, social ecology, resilience, etc. Finally, some themes are considered low centrality and low density, such as urban, greenspace, experiences, life satisfaction, etc.

3.7 Factorial Map Analysis

This section applies the factorial map, where this approach provides significance that can represent each topic in distributed clusters. This procedure aims to identify the smallest number of factors that can represent the relationship between several variables. Determining the proximity between keywords and topics as a whole is expected to reveal a close relationship between clusters and keywords. Where several keywords are identified from Figure 7, there are three colour clusters: Green, Blue, and Red in Figure 7. The highest green clusters are cities, cities, greenspace, urban areas, natural resources conservation, ecosystems, urbanization, etc. In contrast, demography, environmental factors, neighborhood, socioeconomics, quality of life, mental stress, and others represent the red cluster. Finally, the blue cluster is represented by sustainable development, environmental monitoring, health impact, ecosystem, public health, psychology, and others. The data indicates that some words, such as cities in the green cluster, are located some distance from the coordinate center, which indicates that the relationship between these keywords is not close. The blue cluster has a deep closeness in the coordinate point, so the keywords scattered around the coordinate point have significant variables for studying the ecocycle for human well-being and health.

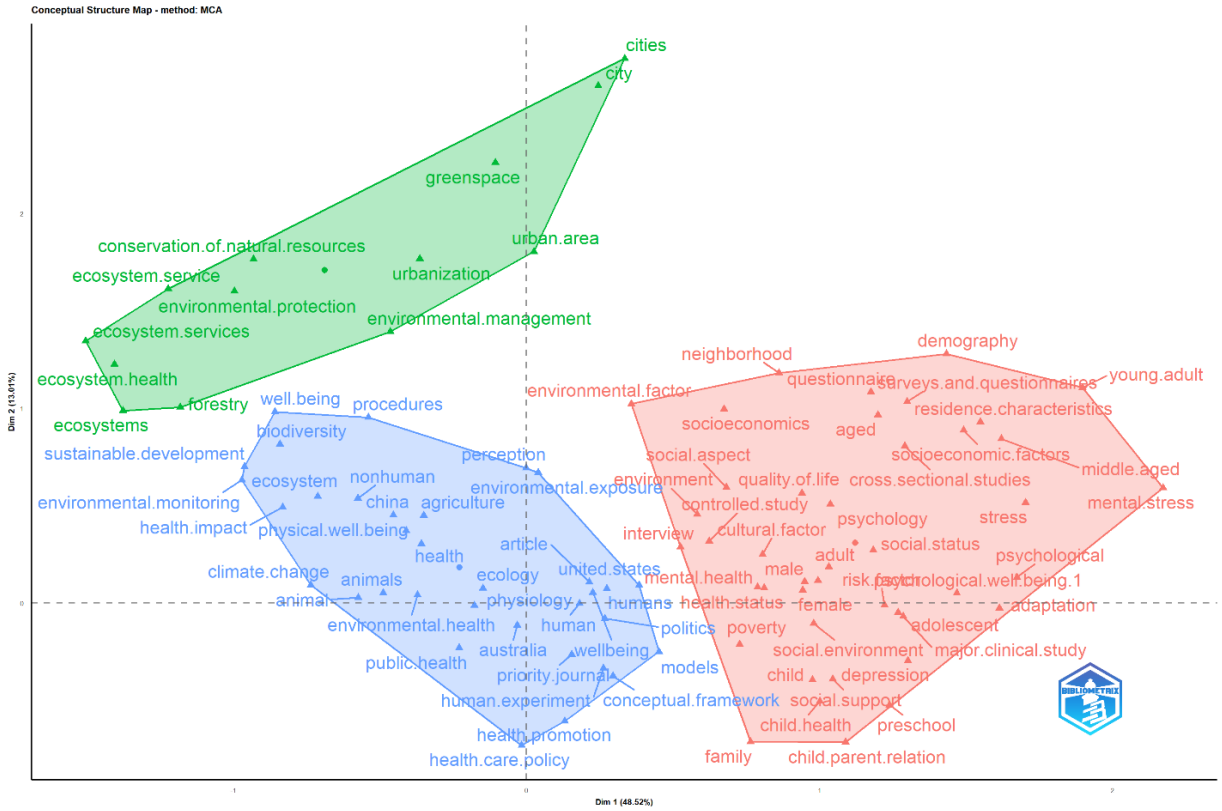

Figure 7. Factorial Map of Ecocycle for Human Well-being and Health.

3.8 Prediction for Future Direction of Ecocycle for Human Well-being and Health Research.

This section is presented to investigate the buzzwords that scholars have utilized in developing studies on ecocycles for human well-being and health, and it is estimated that these buzzwords provide a yearly representation of its distribution. It is important to note that there are some keywords of interest for future studies about selected issues, as shown in Fig. 8.

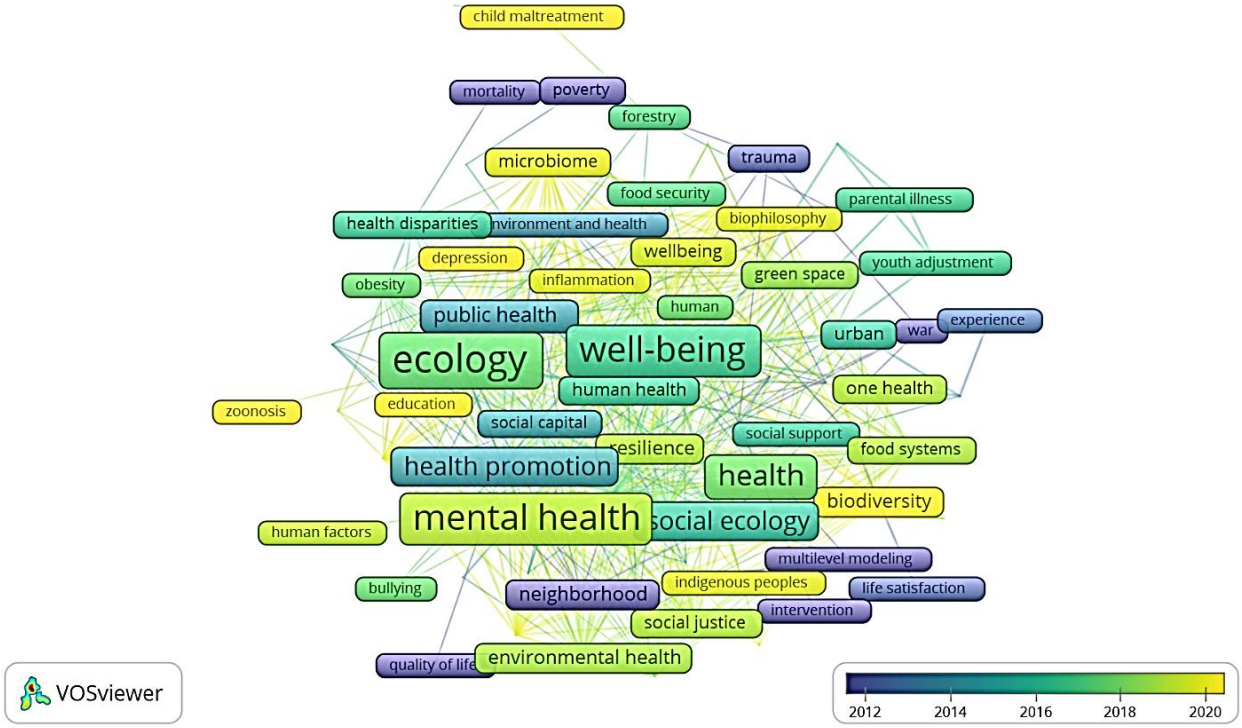

Figure 8. Keyword Evolution Overlay in Selected Periods

Fig 8 shows that there are keywords highlighted in recent years that developed in ecocycle studies that focus on human well-being and health, for instance, issues on depression, inflammation, indigenous peoples, zoonoses, education, and microbiome. These terms are the most representative of documents focused on the last year. We emphasized that these studies have the potential to be reviewed in the future, especially by offering links to previous studies with keywords developed in earlier years, such as social capital, social ecology, food systems, bullying, and others.

3.9 Remarks/Discussions

The ecocycle for human well-being and health study plays an essential role in providing the proper cycle for human health conditions and the distribution of well-being, where this ecocycle helps minimize the negative impact of the human life cycle (Mactaggart *et al.,* 2018). This cycle encourages social inclusion and community in healthy neighborhoods (Wold & Mittelmark, 2018). In this case, the ecocycle provides an ecosystem connection to human health with health care and psychology, exploring ecosystem health as a metaphor relating to the human health ecosystem (Aronson *et al.,* 2016). Therefore, supportive policies prioritizing ecosystem health directly related to human well-being are needed (Rahmat *et al.,* 2024). From the moment of birth, individual traits, family, community, and various factors influence children's mental health, so it is considered to be an important environmental factor and an urgent needed, to social psychological service providers contribute to strengthening human psychological well-being, especially children (Guo *et al.,* 2023). Others note that the critical individual attributes include physical, emotional, and mental health (Dańska-Borsiak, 2023). Therefore, each child should be seen in totality –body, mind, heart, and soul, and not in isolation, assessed in context with ecological dynamics, as well as providing emotional support and gaining their faith, trust, and confidence (M. Singh, 2009).

Besides, environmental factors, such as pollution, also significantly impact the sustainability of the ecosystem, especially for human health, and impact their health; contamination of an environment will negatively affect human health (Plutino *et al.,* 2022). Thus, climate change in the context of health is a crucial issue in the sustainability of public health development. This issue needs attention for the health and well-being of current and future generations (Giudice *et al.,* 2021). In this regard, ecological cycle entities as a totality need to be maintained for human well-being, which includes health and happiness; hence, the framework of which should be maintained, and its impact needs to be examined in terms of the relationship between ecosystems and human well-being (Schaubroeck & Rugani, 2017).

The proposed model shown in Fig. 9 illustrates how vital the ecocycle is for human well-being and health. Reflecting on the ecological scenario, it shows that the initial cycle needs to prepare several indicators that are important for human development, both from the welfare of children by providing proper education and their life satisfaction by being given food with maintained safety and maintaining the psychology of children to develop into prosperous youth in terms of health and happiness. As a scholar mentioned, understanding the reactions of ingredients and combinations consumed is an essential factor in preventing and treating a range of health conditions (Dabija *et al.,* 2024). With that development, humans can judge that their mental and moral health is maintained, so that it will have an impact on the environment and the health of the surrounding community, with the adjustment of young children giving attention to proper health, so that the ecocycle that is maintained for the quality of life can be maintained from some destruction of their health caused by unsocial resilience and well-being support, even to youth ages, moreover resulted in mortality, and parental illness can be saved as a noted that the measurement of resilience is therefore essential, even in cases where it will lead to risk reduction and better preparedness for unforeseen circumstances (Keller *et al.,* 2024).

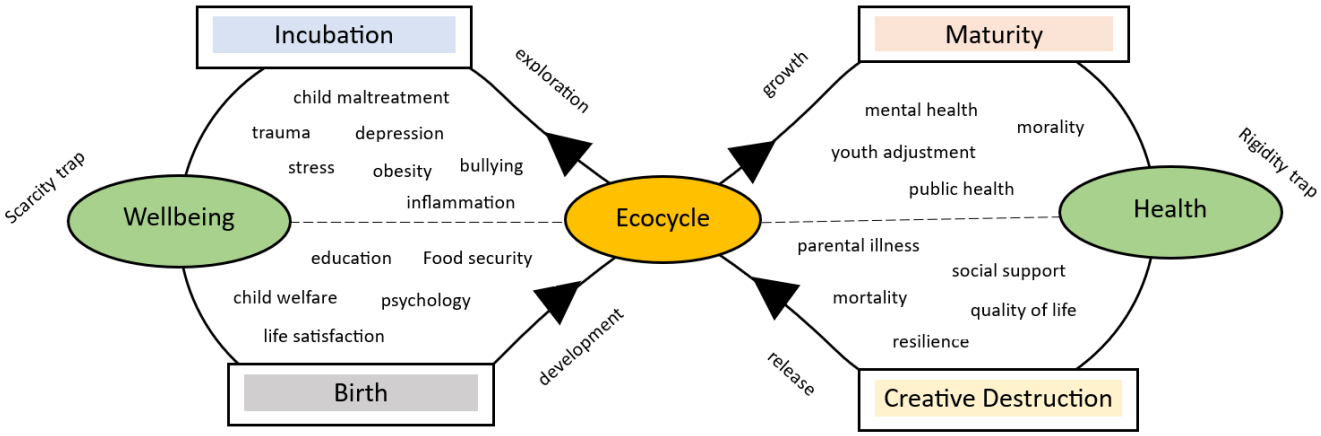

Figure 9. An Author's Proposed Model of the Ecocycle's Contribution to Human Well-being and Health

Source: The author's own proposed, 2024

This attention needs to be released and further exploration in conditions such as deep trauma, depression, bullying, inflammation, stress, and maltreatment in children, which interfere with human health and well-being. Therefore, preventing damage to health and well-being - physical, mental, and social - is increasingly vital (Piwowar-Sulej & Cierniak-emerych, 2024). In this case, both assessing and monitoring human well-being is essential as a crucial element in sustainability assessments to ensure a balanced approach to individual well-being (Schaubroeck & Rugani, 2017). For instance, maintaining food systems enhances human health and well-being (Gillespie & Smith, 2008). Thee interconnection between ecological cycles of human well-being and human health bestows upon restoration professionals a crucial responsibility to ensure equilibrium of human ecosystems (Aronson *et al.,* 2016). Thus, it is back to the ecological system from the beginning that needs to be well-prepared for humans to provide health and well-being to life.

4. CONCLUSIONS

This bibliometric study shows that the study of the ecocycle for human well-being and health strives to continue producing studies with various themes and terms. The evolution of the fluctuating annual trend indicates that the interest of this study requires continuous study by looking at the overall trend of progress; the matrix has been leaned on several proposed metrics that represent this study, and the distribution of terms has shown this issue is sustainability for mental health and well-being, broadly experiencing the ecological system that leads to social and environmental. Even climate change has implications for human health and well-being. Some core themes have expanded to include health promotion to maintain human health, including stress management. The issue of mental health and resilience supports the case findings in this literature. In addition, conservation and environmental ecosystems and their protection are also present to support the study of the ecocycle for human well-being and health. Psychological issues are significant for health so that problems such as stress, depression, trauma, and others can be overcome for sustainable human development. So, in our research, we propose a model for this case study, which ultimately has implications for the absence of issues that have a negative impact on human life.

Significantly in the conceptual implications of this research, we recognize that the ecocycle framework for human well-being and health plays a crucial basis in the sustainable development of human beings; this needs to be reinforced with our proposed model to extend health and well-being in peaceful living. In fact, this paper has limitations that need to be presented for further review of the approach taken, such as following research on the development of human well-being and health based on case studies approaches and being able to draw practical conclusions and connect with increasingly complicated living environments. Another ecocycle framework/ model is needed to counter our proposed framework, so further studies must examine the debate more deeply.

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