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A Holistic Evaluation of Buddhism Literature: A Bibliometric Analysis of Global Publications Related to Buddhism Between 1975 and 2017

Ghouse Modin Nabeesab Mamdapur
Synthite Industries Limited, ghouse.mamdapur@gmail.com

Engin Senel
Hitit University, enginsenel@enginsenel.com

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Engin Senel,[1, 2]

MD, BBA, Associate Professor, HoD

http://orcid.org/0000-0001-8098-1686 **E-Mail:** enginsenel@enginsenel.com

[1]*Hitit University Faculty of Medicine, Department of Dermatology and Venereology, Çorum, TURKEY*

[2]*Hitit University, Traditional and Complementary Research and Application Center, Çorum, TURKEY*

Ghouse Modin Mamdapur,[3*]

BSc., MLISc., Scientist-Information and Documentation

http://orcid.org/0000-0003-4155-1987 **E-Mail:** ghouse@synthite.com

[3]*Synthite Industries Private Limited, Department of New Product Development and Research,*

Kolenchery, Ernakulam, Kerala, INDIA

Abstract

Although Buddhism is the fourth largest religion of the world with almost 500 million followers, to the best of our knowledge, academic literature lacks a bibliometric study investigating Buddhism documents. We used four databases provided by Web of Science; Thomson Reuters to extract the academic documents related to Buddhism and included all items published between 1975 and 2017. We generated info-maps and info-graphics showing distribution of world countries' publication productivity and connections in bibliometric networks. A total of 25,267 articles were included and the most common document types were original articles, reviews and meeting reports (76.11, 19,38 and 3.84, respectively). English and Korean were the major languages of Buddhism literature (48.12 and 44.95%). United States of America (USA) was leading country with 4572 articles (18.81%) followed by the United Kingdom, China, Canada and Japan (3.32, 2.58, 2.1 and 2.07%, respectively). The most productive countries were Singapore, Australia, New Zealand and Taiwan (s = 19.34, 18.57, 16.42 and 15.45). We noted that six of ten most producing institutions in Buddhism literature were from the USA. No institutions from developing or least-developed countries were in the top-ten list. Researchers from the

countries with large Buddhist population should be encouraged and supported to carry out more articles in Buddhist literature.

Keywords: Buddhism, Buddhist, Publication Trend, Bibliometrics, Scientometrics, Religion

1. Introduction

Buddhism is the fourth largest religion of the world encompassing 7% of total population of the world with 488 million believers. In modern world there are three major branches of Buddhism: Mahayana, Vajrayana and Theravada Buddhism (Hackett et al. 2012). Bibliometrics is a novel and popular statistical discipline investigating publication features and trends in a certain academic area (Muslu 2018). Although number of studies related to religious topics have been raising by year, to the best of our knowledge, academic literature lacks a bibliometric study investigating Buddhism documents. In this study we aimed to investigate bibliometric features of Buddhism literature.

2. Methods

We searched four databases of Thomson Reuters Web of Science (Thomson Reuters, New York, NY, USA) titled Web of Science Core Collection, Korean Journal Database, Russian Science Citation and SciELO Citation Index and collected all indexed data of academic literature related to Buddhism from these databases. We used keywords "Buddhism", "Buddhist" and "Buddha" for our search. We included all items published between 1975 and 2017 and excluded all documents produced in 2018. Documents published from England, Scotland, Wales and North Ireland were collected under the United Kingdom (UK) title. All articles published from West Germany, East Germany and Federal Republic of Germany were united under "Germany" title. United Nations' classification system of was used to categorize the countries (United Nations 2019). GunnMap 2 free web source was our tool to create info-maps showing publication density of world countries (GunnMap n.d.). We generated info-graphics revealing bibliometric networks by using revealing bibliometric networks (Vosviewer n.d.).
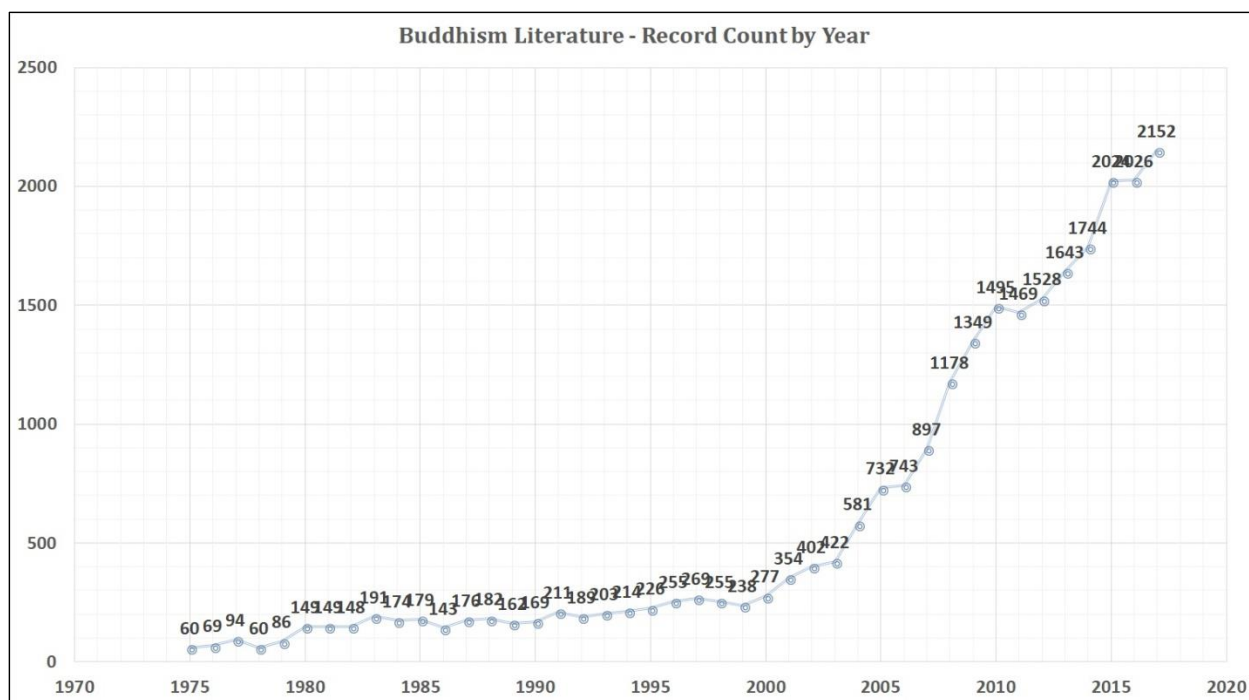
3. Results

3.1. General features of Buddhist Literature

A total of 25,267 articles published during a period of 1975-2017 were found in our basic search. The most studied research areas of Buddhism literature were found to be Religion, Asian Studies and History (29.88, 14.86 and 11.07, respectively) (Table 1). We noted that annual publication number increased gradually by year and the peak year for the literature was 2017 (n=2152, maximum record count, Figure 1). Web of Science Core Collection database covered 51.51% of the literature followed by Korean Journal Database and Russian Science Citation Index (48.14 and 1.04, respectively). The most common document types of the literature were original articles, reviews, meeting reports and editorials (76.11, 19, 38, 3.84 and 1.12, respectively; Table 2). English and Korean were the major languages of Buddhism literature followed by French, Russian and Chinese (48.12, 44.95, 1.97 and 1.33 and 1.17%).

Research field	Record count	Percentage
Religion	7,551	29.88
Asian Studies	3,754	14.86
History	2,796	11.07
Arts / Humanities	2,735	10.82
Philosophy	2,600	10.29
Literature	2,195	8.69
Art	1,381	5.47
Psychology	1,211	4.79
Behavioral Sciences	998	3.95
Social Sciences Other Topics	962	3.81
Total	**25,267**	**100.00**

Table 1. The most studied research areas of Buddhism literature between 1975 and 2017

Figure 1. Total number of publications of Buddhism literature by year

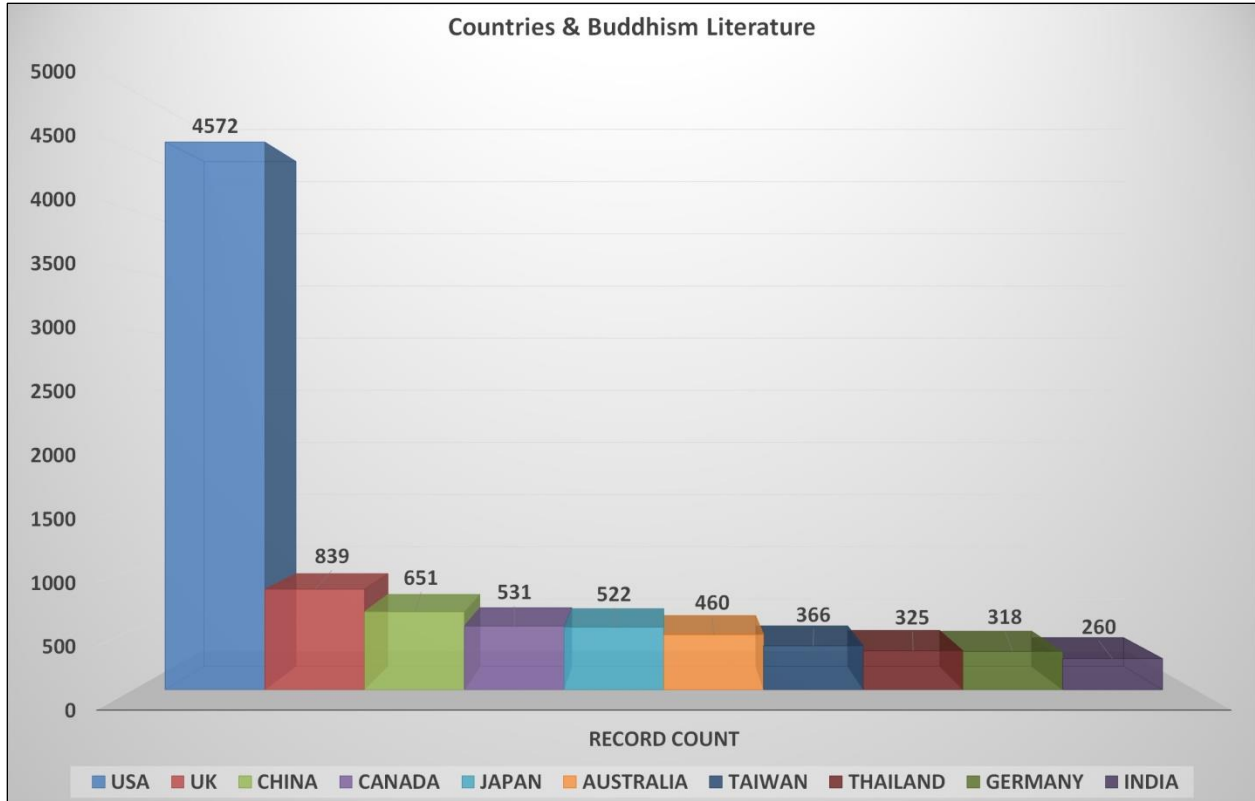| Document Types	Record Count	Percentage
Article	19,230	76.11
Review	4,897	19.38
Meeting	970	3.84
Editorial	284	1.12
Abstract	120	0.47
Art and Literature	102	0.4
Letter	100	0.4
Case Report	53	0.21
News	43	0.17
Clinical Trial	34	0.13
Biography	31	0.12
Unspecified	20	0.08
Correction	17	0.07
Book	6	0.02
Bibliography	5	0.02
Others	409	1.62
Total	**25,267**	**100.00**

Table 2. Document types of Buddhism literature between 1975 and 2017

3.2. Productivity of Authors, Countries and Journals

As we investigated the authorship features of Buddhism literature we detected that 120 items (0.47%) were recorded without an author input as anonymous. The most prolific authors were De Jong JW, Ko Young-Seop and Berrett TH (n=75, 54 and 52 articles, respectively; Table 3).

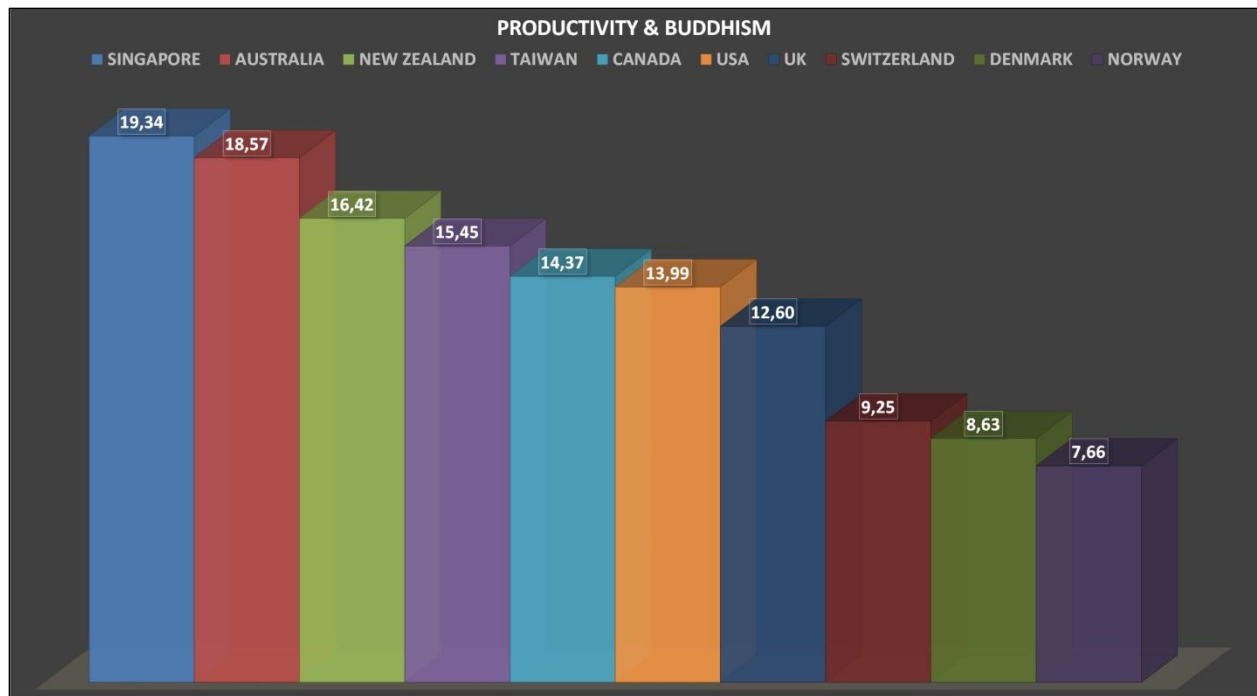| Source Title	Record count	Percentage
The Journal of The Korean Association for Buddhist Studies	572	2.26
Bul Gyo Hak Yeongu Journal of Buddhist Studies	398	1.57
Journal of Asian Studies	344	1.36
Eastern Buddhist	314	1.24
Philosophy East West	304	1.2
Journal of Eastern Asia Buddhism And Culture	259	1.02
Journal of Korean Seon Studies	256	1.01
Journal of The American Oriental Society	251	0.99
Library Journal	241	0.95
The Art History Journal	235	0.93
Journal of Bojo Jinul's Thought	233	0.92
Bulletin of The School of Oriental And African Studies	228	0.9
Won Buddhist Thought Religious Culture	228	0.9
Indo Iranian Journal	220	0.87
Journal of The American Academy of Religion	215	0.85
International Journal of Buddhist Thought and Culture	209	0.82
Journal of Indian Philosophy	201	0.8
Contemporary Buddhism	200	0.79
Journal of The Royal Asiatic Society	185	0.73
Bulgyo Yongu	173	0.68

Table 3. The most productive 20 journals in Buddhism literature between 1975 and 2017

Figure 2. Top ten countries producing articles in Buddhism field by total number of articles

Figure 3. World countries publishing in Buddhism literature

Figure 4. The ten most productive countries publishing articles in Buddhism literature

United States of America (USA) ranked first with 4572 articles (18.81%) followed by the United Kingdom, China, Canada and Japan (3.32, 2.58, 2.1 and 2.07%, respectively; Figure 2). We noted that most of the world's countries, except Africa, contributed to the literature of Buddhism (Figure 3). We measured a productive score for each country by using a formula (productivity score = publication number/population x 1,000,000) and found that the most productive countries were Singapore, Australia, New Zealand and Taiwan (s = 19.34, 18.57, 16.42 and 15.45, respectively; Figure 4) (Şenel 2019a). The most contributing journals in Buddhism literature were *the Journal of the Korean Association for Buddhist Studies, Bul Gyo Hak Yeongu - Journal of Buddhist Studies, Journal of Asian Studies and Eastern Buddhist* (n = 572, 398, 344 and 314, respectively; Table 3). *1st Chung Hwa International Conference on Buddhism, Buddhist Tradition and Modern Society* held in 1990, Taiwan was the most contributing meeting of Buddhism literature indexed in WoS database between 1975 and 2017. We noted that seven of ten most producing institutions in Buddhism literature were from the USA. No institutions from developing or least-developed countries were in the top-ten list (Table 5).

Meeting Titles	Record Count	Percentage
1st Chung Hwa International Conference on Buddhism, Buddhist Tradition and Modern Society	25	0.099
International Conference on Buddhist Narrative in Asia And Beyond	19	0.075
33rd International Congress of Asian and North African Studies	14	0.055
Chung Hwa International Conference on Buddhism	12	0.047
International Conference on Advanced Materials for Science and Engineering	11	0.044
7th Seminar of The International Association for Tibetan Studies	10	0.04
54th Transactions of The International Conference of Eastern Studies	9	0.036
Buddhism The Internet and Digital Media the Pixel in The Lotus	9	0.036
25th International Congress on An Unbroken History Conserving East Asian Works of Art and Heritage	7	0.028
Conference on Advances in Meditation Research Amr Neuroscience and Clinical Applications	7	0.028

Table 4. Top ten meetings publishing abstracts indexed in Web of Science database between 1975 and 2017

Institution	Record Count	Percentage
University of California System (USA)	317	1.255
University of London (UK)	205	0.81
Harvard University (USA)	162	0.64
University of Chicago (USA)	141	0.56
University of London School Oriental African Studies (UK)	106	0.42
Pennsylvania Commonwealth System of Higher Education (USA)	97	0.38
California State University System (USA)	96	0.38
University of Oxford (UK)	95	0.38
Australian National University (Australia)	94	0.37
Columbia University (USA)	94	0.37
University of Hawaii System (USA)	92	0.36

Table 5. Ten most productive institutions in Buddhism literature between 1975 and 2017

3.3. Citation analysis

H-index of Buddhism literature was calculated as 40 and an average citation per item was measured to be 2.13 times. The most cited document was an original article titled "*Meditation, mindfulness and cognitive flexibility*" written by *Moore A. and Malinowski P.* This article was published in 2009 and cited 288 times (28.8 times per year; Table 6).

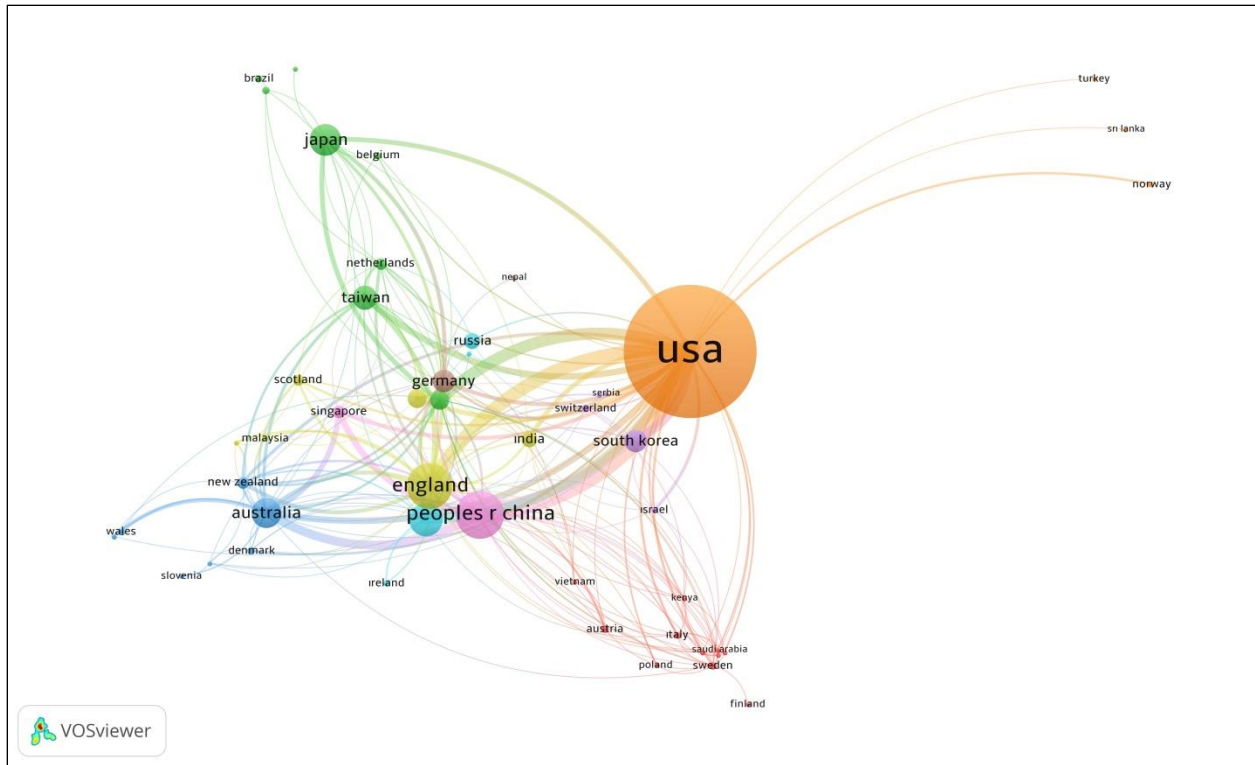| Article	Author	Year	Total citations	Average citations per year
Meditation, mindfulness and cognitive flexibility	Moore A and Malinowski P	2009	288*	28.80**
Mental balance and well-being - Building bridges between Buddhism and western psychology	Wallace, B. Alan; Shapiro, Shauna L	2006	180	13.85
Shared virtue: The convergence of valued human strengths across culture and history	Dahlsgaard, K; Peterson, C; Seligman, MEP	2005	159	11.36
Age effects on gray matter volume and attentional performance in Zen meditation	Pagnoni, Giuseppe; Cekic, Milos	2007	158	13.17
Focused attention, open monitoring and automatic self-transcending: Categories to organize meditations from Vedic, Buddhist and Chinese traditions	Travis, Fred; Shear, Jonathan	2010	139	15.44
Chinese values, health and nursing	Chen, YC	2001	137	7.61
Immigration and religion	Cadge, Wendy; Ecklund, Elaine Howard	2007	115	9.58
Selfhood and Identity in Confucianism, Taoism, Buddhism, and Hinduism - Contrasts with The West	Ho, DYF	1995	103	4.29
Religion as Attachment: Normative Processes and Individual Differences	Granqvist, Pehr; Mikulincer, Mario; Shaver, Phillip R	2010	86	9.56
Mother Sold Food, Daughter Sells Her Body - The Cultural-Continuity of Prostitution	Muecke, MA	1992	85	3.15

Table 6. Ten most cited articles of Buddhism literature between 1975 and 201, * Most cited publications and ** Documents with the highest citation average by year

3.4. Keyword and Bibliometric Network Analyses

Keyword analysis (Table 7) revealed that "*Buddhism*", "*religion*", "*mindfulness*", "*Christianity*" and "*meditation*" were the most used keywords (s=1227, 278, 188, 182 and 164). We performed a holistic bibliometric network analysis and created infographics by using VOSviewer. "Buddhism" was the centered keyword tightly connected to keywords of "meditation", "mindfulness", "spirituality", "psychotherapy", "mental health", "well-being", "nature" and "happiness" (Figure 5). The USA had the largest bibliometric network and connected to all countries publishing in Buddhism literature except from Brazil, Spain, Malaysia, Ireland and Czech Republic. (Figure 6).

Keywords *(Total Link Strength)*		
1. Buddhism (*1227*)	2. Religion (*278*)	3. Mindfulness (*188*)

4. Christianity (*182*)	5. Meditation (*164*)	6. Islam (*138*)
7. Confucianism (*134*)	8. Hinduism (*126*)	9. China (*115*)
10. Spirituality (*108*)	11. Taoism (*90*)	12. Ethics (*87*)
13. Thailand (*74*)	14. Tibet (*73*)	15. Consciousness (*66*)
16. Gender (*62*)	17. Judaism (*61*)	18. Philosophy (*58*)
19. India (*58*)	20. Ritual (*57*)	21. Culture (*56*)
22. Japan (*51*)	23. Tibetan Buddhism (*51*)	24. Daoism (*50*)
25. Psychotherapy (*50*)	26. Phenomenology (*49*)	27. Sri Lanka (*49*)
28. Identify (*46*)	29. Self (*45*)	30. Karma (*43*)

Table 7. Most used 30 keywords on the literature related to Buddhism

Figure 5. Keyword network of Buddhism literature
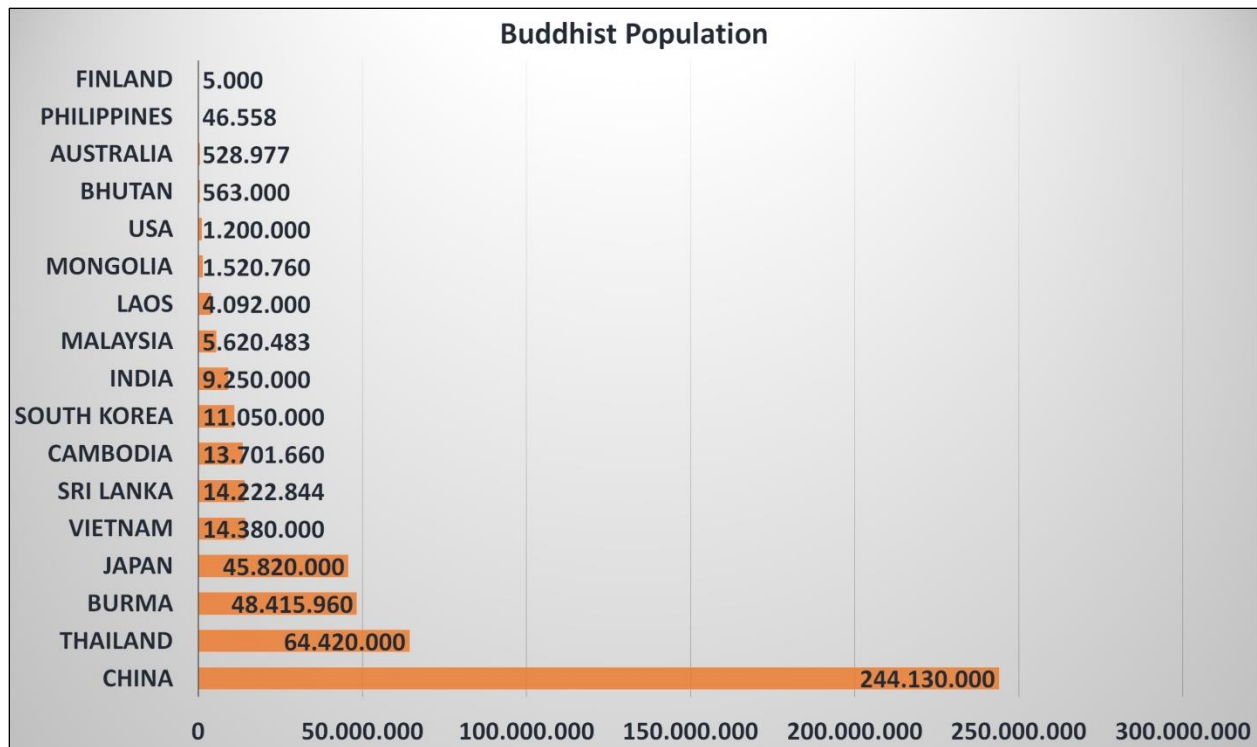
Figure 6. Bibliometric network of the countries publishing in Buddhism literature

4. Discussion

Buddhism began in Eastern Asia and almost all Buddhist still live in Asia-Pacific region (Hackett et al. 2012). Although half of Buddhists still live in China, China had only third highest number of publications in Buddhism literature and it was not in the most productive countries' list (Figure 7). We also detected that there were no institutions from the countries in which large Buddhist populations live in the most productive institutions' list (Table 7).

Figure 7. Countries with the largest Buddhist population

There are limited numbers of bibliometric reports published in religious literature. Lucchetti and Lucchetti performed a bibliometric study in religion and health literature by using PubMed database between 1999 and 2013 and they found that the USA was the leading country as we detected in our study (Lucchetti and Lucchetti 2014). Recently, Şenel and Demir carried out a bibliometric study investigating the articles published in the Journal of Religion and Health and they detected that the USA ranked first with 1665 articles and the most productive 16 institutions were from the USA. In a previous study analyzing bibliometric features of health literature related to Abrahamic religions, the USA was noted to rank first in all three religion's academic literature (Şenel 2018). In 2019, a holistic scientometric analysis on health literature related to Dharmic religions such as Hinduism, Buddhism, Sikhism and Jainism was published. According to this report, a total of 485 document were indexed in Buddhism and health and 94.43% of all items were original articles. The USA ranked first with 159 items (32.78%) followed by Thailand, the UK and China (10.72, 6.8 and 6.39%, respectively). *Mahidol*

University from Thailand was the most productive institution and the most contributor source title was *Journal of Religion and Health*. H-index of Buddhism and health literature was measured as 31 and total number of citations was 4636. A high connection was noted between "Buddhism" and the keywords of "mental health", "mindfulness", "meditation" and "well-being" (Şenel 2019b).

Our study had three limitations. First, we preferred to search WoS in our preliminary study since WoS is the one of the most reliable databases in academic literature. Further studies including more databases such as PubMed, Scopus, Index Copernicus or DOAJ can be performed in the future. Second, we could only reach back to the documents published in 1975 since WoS could not provide items before 1975. Third, due to insufficient bibliometric or scientometric studies in this field, we could not compare our outcomes with the previous reports in the literature.

As far as we know, our study was the first bibliometric study investigating Buddhism literature. Researchers from the countries with large Buddhist population should be encouraged and supported to carry out more articles in Buddhist literature.

References

GunnMap. (n.d.). GunnMap 2. http://lert.co.nz/map/. Accessed 10 January 2020

Hackett, C., Grim, B. J., Stonawski, M., Skirbekk, V., Potančoková, M., & Abel, G. (2012). *The Global Religious Landscape. A Report on the Size and Distribution of the World's Major Religious Groups as of 2010*. Washington.

Lucchetti, G., & Lucchetti, A. L. G. (2014). Spirituality, Religion, and Health: Over the Last 15 Years of Field Research (1999–2013). *The International Journal of Psychiatry in Medicine*, *48*(3), 199–215. doi:10.2190/PM.48.3.e

Muslu, Ü. (2018). The Evolution of Breast Reduction Publications: A Bibliometric Analysis. *Aesthetic*

Plastic Surgery, *42*(3), 679–691. doi:10.1007/s00266-018-1080-7

Şenel, E. (2018). Health and Religions: A Bibliometric Analysis of Health Literature Related to Abrahamic

Religions Between 1975 and 2017. *Journal of Religion and Health*, *57*(5), 1996–2012.

doi:10.1007/s10943-018-0665-4

Şenel, E. (2019a). Evolution of homeopathy: A scientometric analysis of global homeopathy literature

between 1975 and 2017. *Complementary Therapies in Clinical Practice*, *34*, 165–173.

doi:10.1016/j.ctcp.2018.11.018

Şenel, E. (2019b). Dharmic Religions and Health: A Holistic Analysis of Global Health Literature Related to

Hinduism, Buddhism, Sikhism and Jainism. *Journal of Religion and Health*, *58*(4), 1161–1171.

doi:10.1007/s10943-018-0699-7

United Nations. (2019). Country Classification. In *World Economic Situation & Prospects for 2019 |*

Economic Analysis & Policy Division (pp. 143–150). New York.

Vosviewer. (n.d.). VOSviewer - Visualizing scientific landscapes. https://www.vosviewer.com/. Accessed

10 January 2020