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USING A BIBLIOMETRIC APPROACH TO SHED LIGHT ON DARK TOURISM

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Abstract

Objective: The current paper attempts to examine the dark tourism concept via a bibliometric approach. For this purpose, 155 articles published on dark tourism from 1990 to 2020 were obtained from the Web of Science database (WoS).
Method: We utilized from VosViewer software to analyze the obtained data. We chose a total of 10 parameters to be analyzed.
Originality/Relevance: Although there are some studies to review dark tourism, unlike other studies, this paper created bibliometric maps of dark tourism by using the Vosviewer software.
Main results: As a result of the analysis, it was found that the dark tourism literature is growing day by day according to the above parameters.
Theoretical/methodological contributions: This paper has identified major themes of dark tourism and prominent studies related to dark tourism.

Keywords: Bibliometric analysis. Dark tourism. Web of Science. VosViewer. Review.

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USANDO UM ENFOQUE BIBLIOMÉTRICO PARA EXAMINAR O CONCEITO DE TURISMO MACABRO

Resumo

Objetivo: Este artigo tenta apresentar uma revisão do conceito de turismo negro por meio de uma abordagem bibliométrica. Para tanto, 155 artigos publicados sobre turismo negro de 1990 a 2020 foram obtidos na base de dados Web of Science (WoS).

Método: O software VosViewer foi utilizado para analisar os dados obtidos. Um total de 10 parâmetros, como os autores mais contribuintes, países, organizações, os artigos mais citados, o número anual de publicações, a co-ocorrência de palavras-chave de autores de artigos, a análise de co-citação de autores e periódicos, o acoplamento bibliográfico de países e autores foram escolhidos para serem analisados.

Originalidade/Relevância: Embora existam alguns estudos para revisar o conceito de turismo negro, ao contrário de outros estudos, neste artigo, mapas bibliométricos de turismo negro foram criados usando o software Vosviewer.

Resultados principais: Como resultado da análise, foi determinado que a literatura do turismo negro está crescendo dia a dia de acordo com os parâmetros acima.

Contribuições teóricas/metodológicas: Este artigo identificou os principais temas do turismo negro e estudos proeminentes relacionados ao turismo negro.

Palavras-chave: Análise bibliométrica. Turismo macabro. Teia da ciência. VosViewer. Review.

UTILIZANDO UN ENFOQUE BIBLIOMÉTRICO PARA ARROJAR LUZ SOBRE EL CONCEPTO DE TURISMO OSCURO

Resumen

Objetivo: Este artículo intenta presentar una revisión del concepto de turismo oscuro a través de un enfoque bibliométrico. Para ello, se obtuvieron 155 artículos publicados sobre turismo oscuro desde 1990 hasta 2020 de la base de datos Web of Science (WoS).

Método: Se utilizó el software VosViewer para analizar los datos obtenidos. Un total de 10 parámetros tales como los autores, países, organizaciones más contribuyentes, los artículos más citados, el número anual de publicaciones, la co-ocurrencia de palabras clave de autor de artículos, el análisis de co-citas de autores y revistas, el acoplamiento bibliográfico de países y autores fueron elegidos para ser analizados.

Originalidad/Relevancia: Aunque existen algunos estudios para revisar el concepto de turismo oscuro, a diferencia de otros estudios, en este artículo se crearon mapas bibliométricos de turismo oscuro utilizando el software Vosviewer.

Resultados principales: Como resultado del análisis, se determinó que la literatura sobre turismo oscuro crece día a día de acuerdo con los parámetros anteriores.

Contribuciones teóricas/metodológicas: Este documento ha identificado los principales temas del turismo oscuro y estudios destacados relacionados con el turismo oscuro.

Palabras clave: Bibliometría. Turismo oscuro. Web of Science. VosViewer. Revisar.

1 Introduction

Tourism is an industry that contributes to communicating with new people, gaining various benefits and gaining various experiences (Atsız et al., 2022b). One of the types of tourism experienced by tourists is dark tousim. Scholars gave attention to the dark tourism terminology in the early 1990s by looking into the close relationship between tourism and locations of death and suffering (Light, 2017). It has been observed that many studies have been carried out on dark tourism since then (e.g. Aslan, 2015; Cohen, 2011; Hartmann, 2014; Kang et al., 2012; Light, 2017; Miles, 2002; Podoshen, 2013; Podoshen, 2017; Stone and Sharpley, 2008; Stone, 2006; Stone, 2012; Strange and Kempa, 2003). Some researchers have examined dark tourism attractions (Miles, 2014), motivation factors in dark tourism (Podoshen, 2013), benefits of visiting a dark tourism site (Kang et al., 2012), dark tourism impact (Wang and Luo, 2018), and experience in dark tourism (Iliev, 2020), etc. Naturally, the results of so many studies have created a wealth of knowledge about dark tourism topic in the tourism field. Thus, the necessity to review dark tourism studies has emerged.

It is known that the growth of knowledge in any scientific topic derives from the contributions made by researchers over time. Thus, a review of this accumulating knowledge is required to figure out the present situation of this topic (Li et al., 2017; Rodríguez-López et al., 2020). Therefore, it is possible to find review studies on various subjects in the field of tourism (e.g. Buhalis, and Law, 2008; Law, Qi and Buhalis, 2010; Hjalager, 2010; Uygur and Öğretmenoğlu, 2018). In this framework, the current study aims to review dark tourism papers via a bibliometric approach. Although there are some studies to review the concept of dark tourism (e.g. Light, 2017; Sharpley, 2009; Stone, 2013), unlike other studies, in this paper, bibliometric maps of dark tourism were created by using the Vosviewer software. Therefore, the current study attempts to fill this gap.

This paper answers our research question: What is the current situation in dark tourism literature and with which key concepts has dark tourism been studied from past to present? The current study may be beneficial for researchers conducting dark tourism research. It can assist to determine the characteristics of scientific production, how, who, what, where, and how it was examined (Durán-Sánchez et al., 2016; Durán-Sánchez et al., 2018). Thus, this study has some theoretical contributions to academia. The most studied concepts related to dark tourism will be determined. Moreover, the most contributing authors, countries, journals, and institutions

will be identified. In this context, our study can be a guide for researchers who are researching or just starting out on dark tourism.

The bibliometric approach (Pritchard, 1969) is important in the tourism field (Hall, 2011). Nowadays, many tourism researchers prefer the bibliometric method. Therefore, numerous tourism-related bibliometric studies have been published. For instance, slow tourism (Mavric et al., 2021), food and gastronomy research in tourism (Okumus et al., 2018; Öğretmenoğlu et al., 2022), sustainable tourism (Garrigos-Simon et al., 2018b; Niñerola et al., 2019), smart tourism (Johnson and Samakovlis, 2019), wine tourism (Durán-Sánchez et al., 2016), sports tourism (Jiménez-García et al., 2020) social media in tourism (Nusair et al., 2019), ecotourism (Liu and Li, 2020; Khanra et al., 2021), agritourism (Rauniyar et al., 2021), religious tourism (Durán-Sánchez et al., 2018) and length of stay studies in tourism (Atsız et al., 2022) were studied by researchers.

In the bibliometric analysis, data can be easily obtained from databases such as WoS, Scopus, and Google scholar (Bartol and Mackiewicz-Talarczyk, 2015). In this study, the data were obtained from WoS, just like the previous studies that examined different subjects with a bibliometric approach (Rodríguez-López et al., 2020; Liu and Li, 2020; Atsız et al., 2022; Öğretmenoğlu et al., 2022). Furthermore, VOSviewer, which is created by Van Eck and Waltman (2010), is generally preferred in analyzing these data. Therefore, we selected VOSviewer to analyze the data as it is easy to use, and it is preferred in other studies (Leong et al., 2020; Vishwakarma and Mukherjee, 2019; Mavriç et al., 2020; Atsız et al., 2022; Öğretmenoğlu et al., 2022).

In order to realize the aims of the research, the current study is structured as follows. In the first part of the study, a concept of dark tourism section is included. Then, bibliometric analysis and method are presented. After that, the results of the research are presented. Finally, the conclusion and implications, limitations, and recommendations for future studies section are included.

2 Concept of dark tourism (what is dark tourism?)

The term dark tourism for the first time was mentioned in 1996 by Foley and Lennon at the same time being the title of the book, which is one of the most cited literature related to dark tourism (Foley and Lennon, 2000). However, the tourist sites associated with death, war and tragedy have been a part of the heritage tourism context for a long time. For instance, the Roman

gladiatorial games, pilgrimages or attendance at the medieval public executions are examples of the early forms of death-related tourism activities (Fonseca et al., 2016). According to Boorstin (1987), the first guided tour in England was the train trip to witness the hanging of the two accused murders (as cited in Stone, 2006). Despite the long history of travelling to sites associated with death and suffering, it is only recently that this particular type of 'special interests tourism' attracted scholarly attention. The terminology of "special interests tourism" appeared in the early 1980s (Trauer, 2006) in response to mass tourism. During those years, tourists started looking for a different travel experience approach to the already known destinations.

Various authors shared the opinion that today's tourists are growing the interest in a diversity of relaxation, recreation, and undiscovered adventures in the new post-modern society. Modern tourists are in search of emotional stimulation. They desire to buy the feelings and experience rather than a product (Goossens, 2000). Therefore, the tourists are looking for quality, ambiance, aesthetics, and atmosphere. The dark and morbid history sites always find ways to audiences, attracting them by books, horror movies, or series. On that note, it is clear that the demand for dark tourism will increase. For instance, the forsaken city of Pripyat in northern Ukraine has gained popularity on account of its setting in Hollywood movies, series, and video games. The abandoned region became attractive for the daily organized tours from Kyiv, hosting thousands of visitants per day (Rush Cooper, 2020). According to Stone (2006), dark tourism involves a visit to sites, attractions, and exhibitions associated with death, suffering, or displaying massacres. Therefore, dark tourism includes tourists visiting the sites with previous battles, wars, and tragedies, where guides cite the examples of tragedy, heroism, or personal suffering.

Dark tourism is thought to be emotionally charged, and the experience is subjective and personal, with both positive and negative characteristics (Martini and Buda, 2019). Sun and Lv (2021) used Chernobyl as a case study to investigate bidirectional body-mind synchronization in dark tourist experiences. As a result, their paper provides an inside look at two case studies. Mind-to-body communication occurs in both circumstances. Their research was carried out by looking at images and text from tour guides' reviews. According to the first study, visitors to dark tourist destinations photo more gloomy images when they sense the site's deeper darkness. The results of study 2's experiment revealed that when people feel darker, they paint with more darkness in their sketches, adding to the evidence for the mind-body interaction. Dark tourism is emotionally linked with the person who visits a dark tourism location, and it can impact both

visitors and locals. Although it is clear that dark tourism has a direct impact, it is now being investigated via the lens of emotion and affect. According to Nawijn and Fricke (2015), however, the psychological impact of dark tourism on communities has received little consideration. In their research, Jordan and Prajag (2021) investigate the emotional experiences of locals at dark tourism destinations. The results of a qualitative method involving in-depth interviews with 37 people of Christchurch, New Zealand, the epicenter of the Canterbury earthquakes, are presented in this paper. Residents who visit local dark tourist places, according to the publication, bring up unwanted memories and negative emotional responses such as despair.

Many of the above studies on dark tourism have led to knowledge in the literature. This study will use a bibliometric approach, unlike studies on dark tourism.

3 Bibliometric analysis and method

The bibliometric method has been adopted in many disciplines. For example, when looking at the relevant literature, it is possible to come across studies conducted by the bibliometric method in marketing (Samiee and Chabowski, 2012; Nicolas et al., 2020), sociology (Kumar et al., 2012), management, and organization (Zupic and Čater, 2015) and educational sciences (Ciftci et al., 2016), etc. Moreover, in the field of tourism, both leading journals (Mulet-Forteza et al., 2018; Merigó et al., 2019; Leong et al., 2020; Öğretmenoğlu et al., 2022) and special topics (Durán-Sánchez et al., 2016; Durán-Sánchez et al., 2018; Liu and Li, 2020; Khanra et al., 2021; Mavric et al., 2021; Atsız et al., 2022) were examined with a bibliometric approach.

Various parameters such as the most contributing authors, countries, organizations, the most cited articles, and the annual number of publications are used in the bibliometric analysis (Vishwakarma and Mukherjee, 2019; Leong et al., 2020; Atsız et al., 2022a; Öğretmenoğlu et al., 2022). Besides, bibliometric maps are created with the help of programs such as CiteSpace II (Chen, 2006), Bibexcel (Persson et al., 2009), and VOSViewer (van Eck and Waltman, 2010), etc. In these bibliometric maps, the co-occurrence of keywords (Callon et al., 1983), bibliographic couplings (Kessler, 1965), and co-citations (Small, 1973) are examined. In genreal, these techniques are used to analyze the topics (Garrigos-Simon et al., 2018a; Garrigos-Simon et al., 2018b; Mulet-Forteza et al., 2018; Mulet-Forteza et al., 2019). Based on the

previous studies, we used these techniques while analyzing the obtained data in the current study.

3.1 Sampling and software

We obtained the data from the WOS database on 28 February 2021. According to Cobo et al. (2011), errors may occur while obtaining bibliometric analysis data. It is necessary to remove the repetitive erroneous data and be careful while obtaining the data. Thus, we have taken into account the documents scanned in only WOS, as there is a possibility that the same articles are included in both, WOS and Scopus, and to avoid analyzing the same data incorrectly (Atsız et al., 2022a; Öğretmenoğlu et al., 2022).

To define the sample, the keyword "dark tourism" was used. The search was done in the "title" field. At the end of this process (Step 1), we found 229 documents such as articles, reviews, and editorial material in the WOS database (See figure 1). Since this study's scope is to examine the studies published between 1990 and 2020, the studies published between 1990 and 2020 were searched again in the search engine and reached 226 studies published in the relevant years (Step 2). Furthermore, as the blind review is applied to articles, we excluded non-article documents. At the end of this process, we obtained 155 articles to review (Step 3). These obtained data were analyzed by Vosviewer software.

Jan van Eck and Ludo Waltman created VOSviewer to construct and view bibliometric visual maps (Van Eck and Waltman, 2010).VOSviewer is software used to build and visualize bibliometric networks such as researchers, journals, individual publications, etc. Moreover, VOSviewer can analyze data obtained by Web of Science, Scopus, Dimensions, and PubMed (VOSviewer, 2020). It is used as a software that is frequently used in previous bibliometric papers (e.g. Martínez-Lopez et al., 2018; Vishwakarma and Mukherjee, 2019; Kumar et al., 2020; Atsız et al., 2022a; Öğretmenoğlu et al., 2022). Based on the above previous studies, in the present study, Vosviewer was chosen to analyze the data.

Figure 1.

Flow Chart Of The Selection Process Of Documents
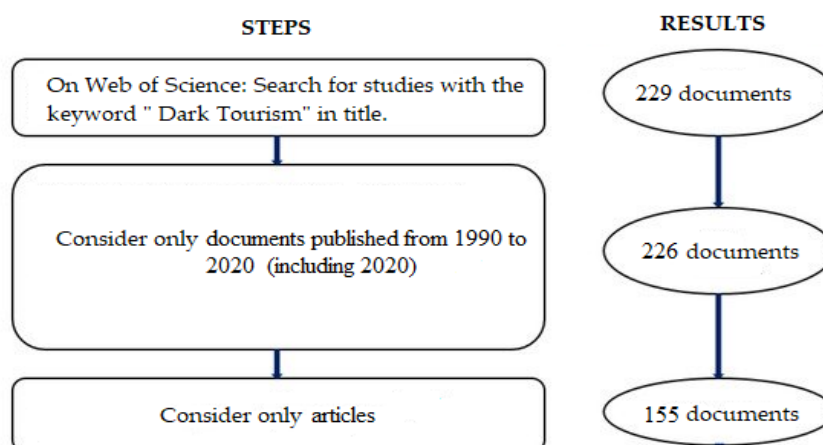
Source: It was created by authors.

4 Results

4.1 Descriptive statistics

4.1.1 Annual number of publications

Figure 2 shows the accumulation of the number of articles published about "dark tourism". Papers published in the WOS index with the title of "dark tourism" were examined between 1990 and 2020. However, the first article found in this database under dark tourism title was published in 2003 (e.g. Strange and Kempa, 2003). It is seen that a significant number of academic papers were carried out on dark tourism in 2018.

**Figure 2.**

The Annual Number of Publication

Source: It was created by authors via wos.

4.1.2 The most contributing countries (Top 5)

Figure 3 shows the most productive countries. Concerning geographical contributing by countries, it is found that the leader is England (40 articles), followed by the USA (26 articles) and Australia (18 articles). Because dark tourism is not something new in England, it is not surprising England leads in total publications.

Figure 3.

The Most Productive Countries on Dark Tourism
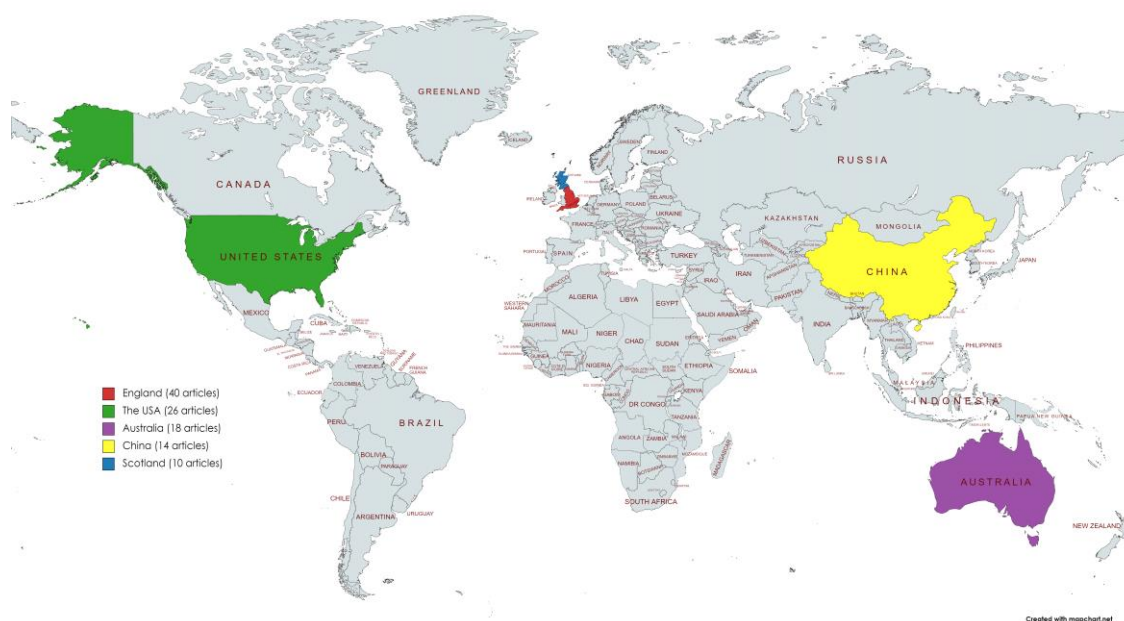
Note: Countries that have more than 10 articles have been selected.
Source: It was created by authors via https://mapchart.net/

As mentioned earlier, the first guided tour in England was morbid and death motivated, where attendants experience the decease of two accused murders. We should also consider the dark tourism forum established by Philip Stone based in the University of Central Lancashire, England. Furthermore, according to Hartmann (2014), dark tourism is a widely accepted idea in England. Moreover, the largest number of researchers and practitioners were located in southern Scotland and northern England (Hartmann 2014). Other productive countries include the People's Republic of China (14 articles), and Scotland (10 articles) indicating global attention on this research topic.

4.1.3 Top 5 most cited articles

The Appendix A shows the top 5 most cited studies from 1990 to 2020. The most cited study is "Consuming dark tourism: A thanatological perspective", which was published on Annals of Tourism Research in 2008 and had been cited 344 times until February 2020. In their research, Stone and Sharpley (2008) aimed to discuss the missing part of dark tourism literature. Moreover, this paper offered insights into understanding the connection between socio-cultural viewpoints on mortality.

The second most cited article (Stone, 2006) argues that dark tourism supplies might have some similar characteristics. However, one supply may offer a darker and more morbid product than another one. Meaning dark tourism supplies are recognized as diverse shades. Moreover, not all the products in dark tourism will have the same connection to death and morbidness. Therefore, Stone (2006) argues that building strong links and foundations of dark tourism, and its supplies will offer a better understanding of dark tourism.

The third most cited article belongs to Strange and Kempa (2003). By performing field research in Alcatraz and Robben Island, the authors offered insights into prison tourism. In their study, the authors compared two locations and focused on different marketing shades linked to the penal history.

The 4th most cited article also belongs to Stone. It is evident the most frequently named author is Philip R. Stone in the dark tourism Stone (2012). The 5th most cited article belongs to Cohen (2011). Author employing The Holocaust Museum in Jeruzalem as a case study approached dark tourism from the educational aspect. According to Cohen, providing an authentic experience to visitors may leave a significant educational effect on them, even if a site is a physical distance from the original location.

4.1.4 The most contributing organizations and authors

In terms of organizations, Figure 4 indicates the most productive universities in dark tourism. From the perspective of productivity, the University of Central Lancashire is the most productive university with a total of 9 articles, followed by Glasgow Caledonian University (with 6 articles), Sun Yat Sen University (with 6 articles), and Indiana University System (with 4 articles).

Figure 4.

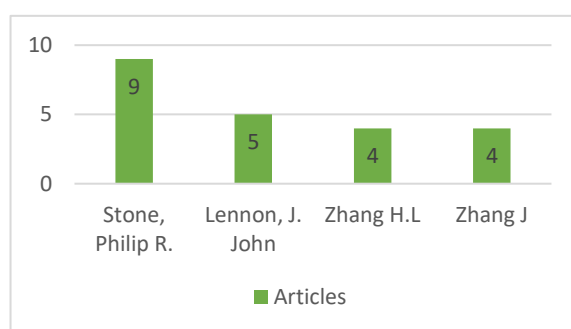*The Most Contributing Organizations*
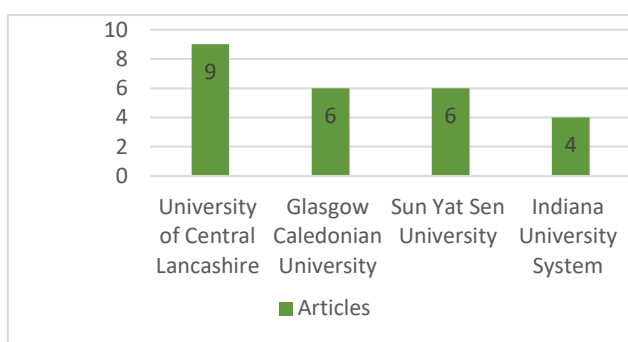
Note: Organizations which have published more than four articles have been selected.
Source: It was created by authors.

Figure 5.

The Most Productive Authors

Note: Authors who have published more than four articles have been selected.
Source: It was created by authors.

Figure 5 indicates the most productive authors in Dark Tourism. According to the record count, the most productive author is Stone, Philip R has 9 articles, followed by other authors such as Lennon, J. J. (5 articles), Zhang H.L., and Zhang J. (4 articles each).

4.1.5 Most productive journals

The 5 most productive journals in dark tourism in the period from 1990 to 2020 are listed as following (see figure 6); Current Issues in Tourism (with a total of 9 articles), Journal of Heritage Tourism (with a total of 8 articles), Worldwide Hospitality and Tourism Themes (with a total of 8 articles), International Journal of Tourism Cities (with a total of 7 articles), and Tourism Management (6 articles).

Figure 6.

The Most Productive Journals
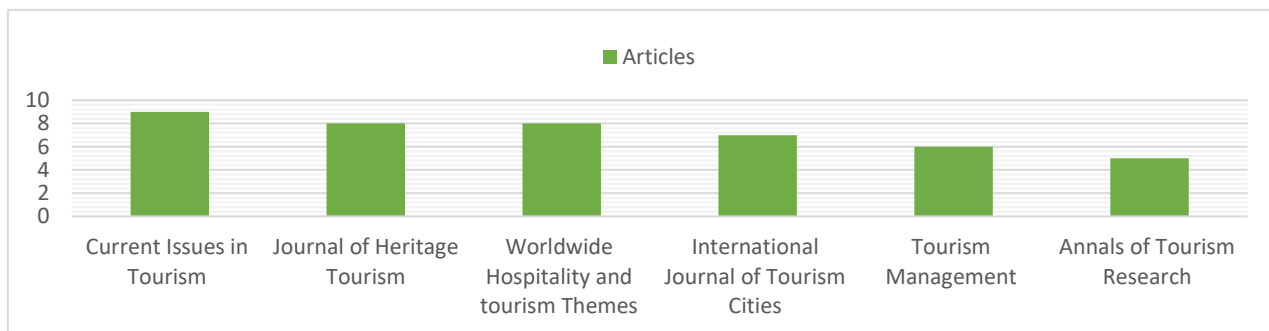
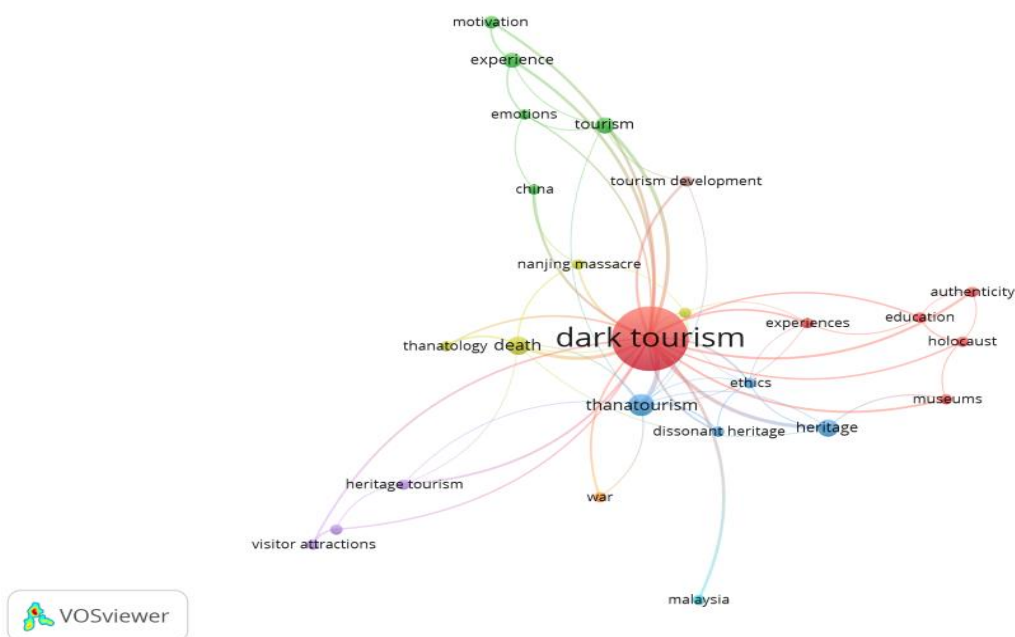**Source:** It was created by authors.

4.2 Science mapping analysis of dark tourism

4.2.1 The most popular keywords in articles

As shown in Figure 7 the authors' keywords were analyzed by using the co-occurrence feature of the VOSviewer.

Figure 7.

Analysis of Keywords Note: The minimum number of occurrences of each keyword was set to 3
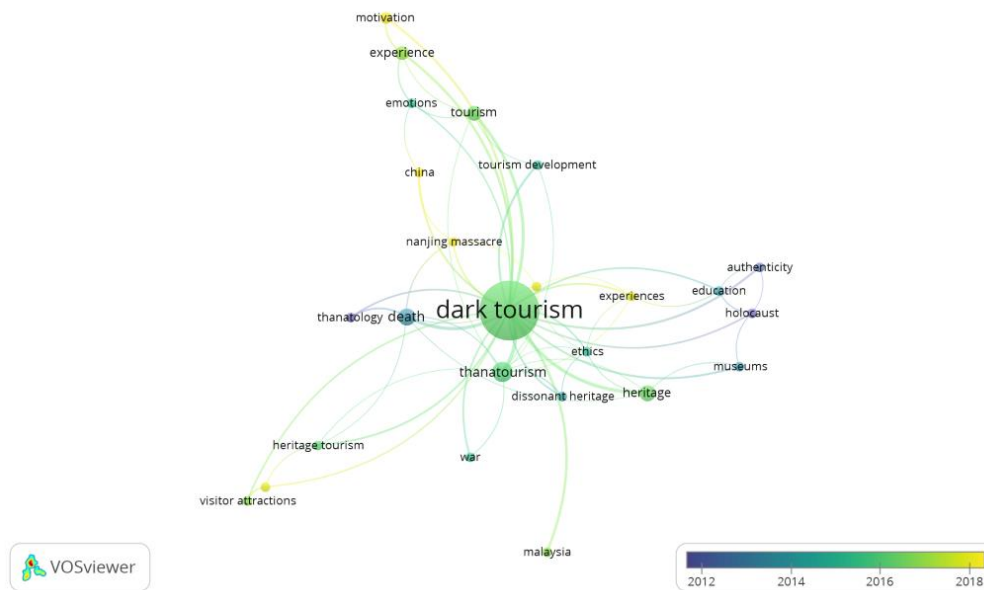

Source: It was created by authors via VOSviewer.

We identified that a total of 419 keywords were used in the academic papers examined within the analysis scope. Among these keywords, the number of keywords repeated at least 3 times is 25. A close look into the figure, it has been identified that the most frequently used keywords in the dark tourism articles are; dark tourism (103), thanatourism (12), death (9), heritage (8), tourism (7) and motivation (4). The remaining keywords were used 3 times in the articles. In addition, Figure 8 shows the distribution of these keywords over the years. As can be seen in the figure, motivations and experiences are the most prominent keywords since 2018.

Figure 8.

A Timeline View of Co-Occurrence of Author Keywords of Papers

Source: It was created by authors via VOSviewer.

4.2.2 Co- citation analysis

The co-citation analysis is benefited to determine journals and authors that have had more effect on the development of the relevant topic (Sharifi, 2021). Findings of the co- citation analysis for the author that have been at least 20 times cited is demonstrated in figure 9. Although there are 4339 authors, only 41 authors meet the threshold of having a minimum number of 20 citations. As a result of this analysis, 4 clusters were obtained as green, blue, red and yellow. Stone (total citations: 395) in the green cluster, Seaton (total citations: 179) in the

red cluster, Sharpley (total citations: 135) in the blue cluster, and Tarlow (total citations: 44) in the yellow cluster were identified as the most prominent authors.

**Figure 9.**

Co- citation analysis for authors
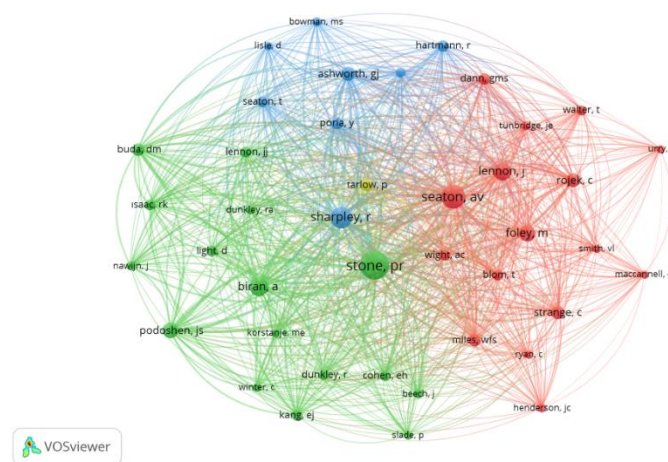
Source: It was created by authors via VOSviewer.

From the sources co-citation point of view, in Figure 10 we show the journal co-citation map, based on 3742 sources, of which 17 sources met the threshold of having a minimum number of 50 citations. As a result of this analysis, 4 clusters were obtained as green (this cluster includes journals such as Current Issues in Tourism and Tourism Geographies), blue (this includes journals sush as Tourism Management and Journal of Travel Research), red (this includes most influencer journals e.g. Annals of Tourism Research) and yellow (this cluster contains only Tourist Studies). Results indicate that journals such as Annals of Tourism Research (total citations: 744, total link strength: 15016) and Tourism Management (total citations: 362, total link strength: 9593) have had stronger influence.

Figure 10.

Co- Citation Analysis for Sources
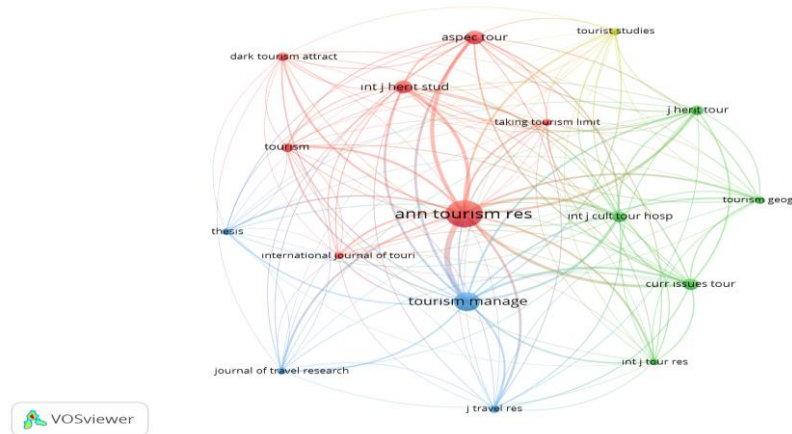
Source: It was created by authors via VOSviewer.

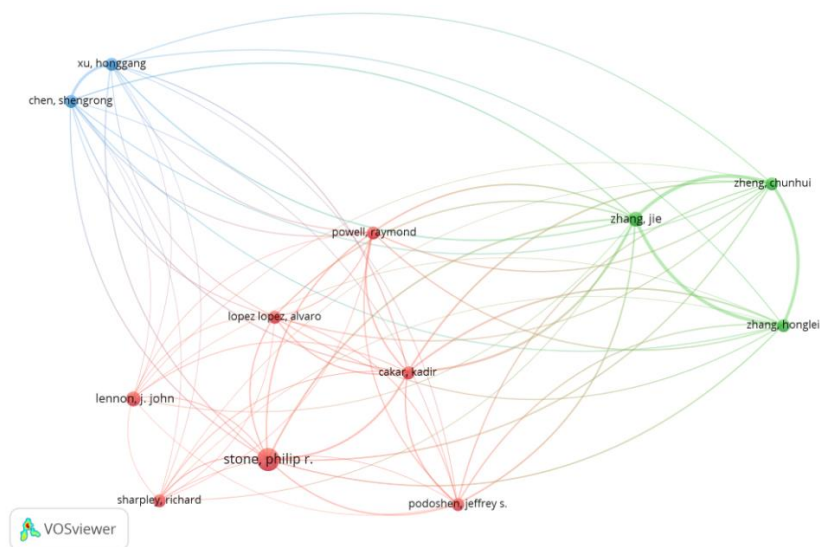## 4.2.3 Bibliographic coupling

Bibliographic coupling is used to complement the co-citation analysis. It presents a different appearance of a topic or authors' relatedness. As mentioned in the method section, while co-citation shows that two papers appear together in the reference list of another paper, bibliographic coupling counts the number of references a group of documents has in common (Garrigos-Simon et al., 2018a; Garrigos-Simon et al., 2018b).

Figure 11 shows the bibliographic coupling of authors. According to the strength and number of papers, the list is led by Stone (821 total link strength, 9 documents and 586 citations). This result also supports the findings in figure 5.

Figure 11.

Bibliographic Coupling of Authors

Source: It was created by authors via VOSviewer.

Figure 12 indicates the bibliographic coupling of countries on dark tourism with a threshold of 5 documents. England has the most extensive network on the belove map. It means that it is the most productive country in dark tourism literature (This result also supports the findings in figure 3.). In addition, the USA and Australia have a significant position in dark tourism literature.

Figure 12.

Bibliographic coupling of countries
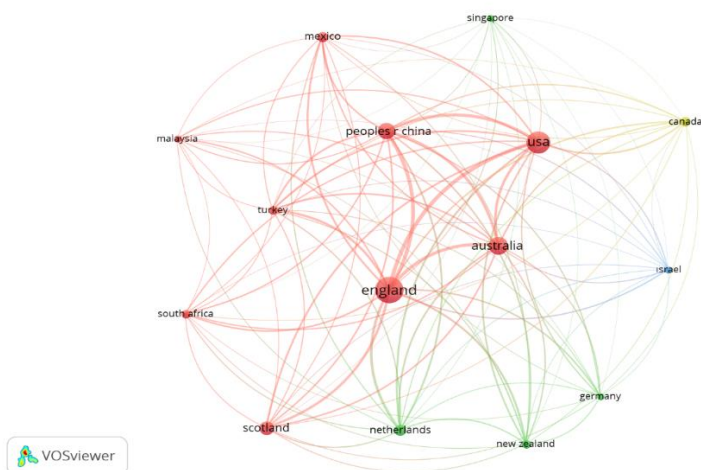
Source: It was created by authors via VOSviewer.

5 Conclusion

This particular study conducted bibliometric analyses of dark tourism. It was analyzed the published articles between 1990 and 2020 in the WOS database. Moreover, the study considered and reviewed 155 articles by using Vosviewer software.

The result indicated that the most productive year was 2018, with a high amount of publication and England is the leader with 40 published articles. Philip Stone's dark tourism forum based at the University of Central Lancashire in the United Kingdom is most likely the reason why the dark tourism concept is widely accepted in England. Therefore, dark tourism is not a new concept in England, and for that reason, it is not surprising that England ranks first in terms of overall publications.

The most cited study was conducted by Stone and Sharpley (2008). The study was published in the journal Annals of Tourism Research and is cited 346 times until 2020. It is also evident that a high number of the most cited studies are published in the same journal, Annals of Tourism Research. In their most cited paper, Stone and Sharpley (2008) set out to fill a gap in the dark tourism literature. Furthermore, this paper contributed to a better understanding of the relationship between socio-cultural perspectives on death. The second most referenced article suggests that dark tourist supplies may have several characteristics. Therefore, this study offered proof of the different hues of dark tourism supplies that are distinguished. On the other hand, not all dark tourism items will have the same link to death and morbidity.

In terms of the most productive universities, the University of Central Lancashire leads with 9 published research. In line with analyzing, Stone, Philip R is the most productive author (with 9 publications). Besides, the result designates that Current Issues in Tourism is the most productive journal (with 9 articles).

The keywords analysis proposed to identify the most common words used in the research description. As a result of the analysis conducted in this direction, the most frequent keywords in dark tourism articles are; dark tourism (103), thanatourism (12), death (9), heritage (8), tourism (7), and motivation (4). The key words most often mentioned in studies give us a hint that dark tourism is certainly associated with death, but also with the heritage of the destination. For instance, the notion of "dark tourism" is often associated with the past of a place that has experienced war or genocide. Some dark and sad events that marked the destination attracted many tourists who were motivated to visit the destination precisely because of what happened in the past.

The paper also analyses the bibliographic coupling of authors. Therefore, these findings corroborate the findings of the most productive author, Stone Philip R. Additionally. The co-citation author and sources analyses' findings are similar to the findings listed in the figures.

Although we looked into a period of 30 years (1990 – 2020), the first article published on this topic dates in 2003. This year is understandable, considering that the dark tourism term is mentioned for the first time in 1996. The dark tourism topic attracted many researchers over the years. To that end, we can conclude that interest in this topic will grow. Therefore, the bibliometric analyses of the topic will help further academic researchers with their dark tourism-related studies.

6 Contributions, limitations and future research

Our current study also has some theoretical and managerial contributions. Although there are many studies on dark tourism, these studies focus on dark tourism experience (Wyatt et al., 2021) satisfaction and loyalty (Wang et al., 2021), and dark tourists' motivations (Min et al., 2021). Moreover, although there are some studies to review the concept of dark tourism (e.g. Light, 2017; Sharpley, 2009; Stone, 2013), unlike other studies, in this paper, WoS database was chosen for articles and bibliometric maps of dark tourism were created by using the Vosviewer software. This study has identified major themes of dark tourism and prominent studies related to dark tourism in terms of managerial contributions. While dark tourism marketers, destination managers, policymakers, and other foremost stakeholders develop marketing strategies, they should consider essential articles and authors, and results outlined in this study. Therefore, this study can be a guide for stakeholders.

Bibliometric studies can assist to determine the characteristics of scientific production, how, who, what, where, and how it was examined (Durán-Sánchez et al., 2016; Durán-Sánchez et al., 2018). Thus, this study has also some theoretical contributions. The most studied concepts related to dark tourism were determined in terms of theoretical contribution. Moreover, the most contributing authors, countries, journals, and institutions have been identified. The relationships between concepts, which are studied on dark tourism, are emphasized in this article. Thus, this study's results also can guide researchers who are researching or just starting on dark tourism. In summary, the current study can help the authors come up with new ideas.

This study has some limitations, just like other studies. Firstly, documents from well established and mostly used database- WOS was included as it covers most of the papers of

recognized refereed journals (Rauniyar et al., 2020; Atsız et al., 2022a; Öğretmenoğlu et al., 2022). However, other databases like Ebsco, ProQuest, google scholar, and Scopus were not included. The reason for this is most of the papers in these databases were replications of what is already available in WOS. Therefore, future studies can obtain their data from these databases and compare their results with this study. Secondly, although bibliometric maps can be created through CiteSpace II (Chen, 2006) and Bibexcel (Persson et al., 2009), etc., in this study, bibliometric maps only were made through VOSViewer (van Eck & Waltman, 2010). Thus, future studies may prefer other software. Thirdly, data in this study was obtained in February 2021. Thus, the results may change over time. Finally, only articles were considered in our study. Documents such as book chapters, conference papers, etc., were not included. The reason for this is that such documents cannot be accessed with open access. Thus, including such documents in the analysis may lead to cleaner results.

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Appendix A.

Top 5 Most Cited Studies During The Period Of 1990 To 2020 (WOS)

Year	Author(s)	Citation (WOS)	Journals	Title
2008	Stone, Philip; Sharpley, Richard	346	Annals of Tourism Research	Consuming dark tourism: A thanatological perspective
2006	Stone, Philip R.	303	Tourism: An International Interdisciplinary Journal	A dark tourism spectrum: Towards a typology of death and macabre related tourist sites, attractions and exhibitions
2003	Strange, C; Kempa, M	238	Annals of Tourism Research	Shades of dark tourism - Alcatraz and Robben Island
2012	Stone, Philip R.	135	Annals of Tourism Research	Dark tourism and significant other death: Towards a model of mortality mediation
2011	Cohen, Erik H.	109	Annals of Tourism Research	Educational dark tourism at an in populo site: The Holocaust Museum in Jerusalem

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