MOST PROMINENT TOPICS IN WELLNESS TOURISM RESEARCH: TOPIC MODELLING ANALYSIS

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Abstract This paper presents a brief overview of the development of the wellness tourism literature. In addition, an analysis and presentation of the topics that appear within this literature field are given. The purpose of this research was to point out the relevant topics that have attracted research efforts over time. In order to detect these topics, we have selected wellness tourism literature articles from Web of Science. Our analysis used topic modelling tools using a machine learning algorithm in Python. The results imply the distinction between two main research topics within wellness tourism literature – wellness and health and medical research. Such differentiation also matches the development of the wellness tourism research field itself.

1   Introduction

Tourism is a field that requires special treatment and research. In most cases, the existing segments in the state and society are developing to enable tourism. However, changes across the world have introduced new standards and requirements of tourists. Wellness tourism is precisely one of these new requirements.

The concept of wellness has gained popularity for two main reasons. The first is that the World Tourism Organization has begun to support the integral concept of well-being and fitness as part of global health policy. Another reason is that health awareness has also increased with the rise in the percentage of educated people. Moreover, wellness programs are now recognized by an increasing number of companies to improve the morale, loyalty, and productivity of their employees (Rančić et al., 2013).

The term "wellness" originated from the combination of two words: "well-being" and "fitness". It appeared in the middle of the 20th century in the United States. The main goal of the wellness movement is to achieve a happy and fulfilled life in both physical and mental terms (Puczko & Bachvarov, 2006). The word wellness is generally used to indicate a healthy balance of mind, body and spirit, which results in an overall feeling of well-being. In alternative medicine, the term wellness was first used by Halbert L. Dunn in the mid-1950s, and it became more popular in the 1970s when the American National Wellness Institute defined it as an active decision-making process for a successful existence. Nowadays, the term does not refer only to a philosophy of life, but also implies a set of services such as tourist and preventive health, good health of "soul and body", and life satisfaction (Zimmer, 2010).

Wellness can also be described as a condition that combines health and happiness. To achieve the state of life that causes wellness, it is necessary to work and combine the characteristics that determine a person's well-being. The determinants that create wellness in a broader sense include health, spirituality, family, environment, work, money, security, social support and leisure (Strout & Howard, 2012).

The definitions of wellness vary depending on who promotes it. Some wellness promoters try to enable a healthier population and a higher quality of life, emphasizing the search for a healthy, balanced lifestyle. On the other hand, as an alternative concept, wellness generally represents much more than the absence of disease, as it implies an optimal state of health. Proponents of these programs believe that the following factors contribute to achieving wellness: living in a clean environment, eating organic food, regular exercise, well-established balance in career and family, interpersonal relationships, and developing faith (Rančić et al., 2016).

According to the Foundation for Wellness Professionals, wellness is considered prevention without drugs, which cannot eliminate health problems but can prevent them. As an alternative concept in general, wellness means more than the absence of disease, as it mean maintaining optimal health. Wellness program users believe that many factors contribute to the preservation and good health; they live in a clean environment, eat organic food, engage in regular physical activity, and establish a good balance between career, family, and relaxation (Cherry, 2006).

As part of health tourism, wellness tourism first came to Europe in 1989, when the Austrian spa Bad Hofgastein used the term "magic wellness" in its brochure. In then began to develop rapidly in the 1990s, especially in Austria, Germany and Switzerland. However, health insurance companies began to cancel the financing of health-tourist stays in health resorts. To survive on the market, spa and health facilities had to introduce changes in their offer to satisfy guests who paid for their own stays. Guests began to expect a higher level of hedonism and individual attention, in addition to the classic medical and hotel services. For this reason, the concept of wellness tourism appeared, which soon expanded beyond the traditional health resorts and became a trend (Health & Wellness Tourism, n.d.).

Wellness tourism is an integral part of the entire offer in tourism. In most cases, wellness tourism is related to health tourism. It includes various programs, facilities and intermediaries that are indirectly connected, such as rehabilitation institutions, physiotherapists, beauty salons, and so on. All services offered by wellness tourism are included in the public health care system as their additional activities (swimming pools in hotels, spas, etc). The offer of wellness services and products is, however, subject to several restrictions, mainly related to various legal aspects of consumer protection (Cvikl & Meknic, 2011).

There are several explanations and definitions of wellness tourism. Mueller and Kaufmann (2001) define it as a set of all the relationships and phenomena resulting from travel whose main motive is maintaining and promoting health. Wellness tourism includes tourists in good health who travel to use treatments that will allow them to maintain their current condition. Wellness tourism includes travel to preserve and improve health and a healthy lifestyle, using numerous therapies and programs offered by wellness and spa centres. Mueller and Kaufman (2001) tried to unify the concept of wellness in North America and Europe, describing wellness as a health condition characterized by the harmony of body, mind and spirit, including aspects of self-responsibility but also physical activity, beauty care, healthy eating, relaxation, meditation, mental exercise, education, sensitivity to the environment and social relations, which are the essential elements of wellness. According to the definition of the American National Wellness Institute, wellness is defined as a process that helps people make decisions and take steps towards a healthier lifestyle. This is primarily about an optimistic attitude and a holistic, balanced approach to life.

The aim of this paper is to provide an overview of the existing literature and investigate the topics that have emerged in the wellness tourism scientific literature. By analysing 212 abstracts, we show that the relevant issues in the existing literature include both health and wellness themes. Their interconnection is further discussed.

The paper is structured as follows. We firstly introduce wellness tourism literature through a brief overview of the existing findings in this research field. We then explore this scientific field by applying topic modelling analysis on the wellness tourism articles identified in Web of Science. Finally, we discuss the results and findings of this analysis, as well as potential implications for future research.

2   Literature review

Before the advent of wellness tourism, health and medical tourism developed, and in the literature there is still no very clear definition of wellness tourism, and the boundaries between medical, health and wellness tourism are still not clearly defined. Therefore, it is necessary to differentiate the concepts of health and wellness tourism because, in different geographical areas, there are different conceptual and linguistic interpretations of these two terms (Horwath HTL, 2013). Health tourism in the

broadest sense includes healing, medical and wellness tourism. Healing tourism provides prevention, treatment, and rehabilitation, while medical tourism includes travelling to another country for medical interventions. Wellness tourism has become "independent" as a particular branch of tourism and represents the preservation of good health through preventive activities, such as a balanced diet, recreation, relaxation, and the like (Mueller & Kaufmann, 2001). Wellness content refers to the area of stay (wellness hotel), where specific safety standards are applied in the field of food (i.e. healthy food is offered) and beverages, and where these standards are well developed for physical activities (physical exercise, swimming, hiking, improving physical fitness, etc). Such measures are also implemented in programs that focus on relaxation (meditation, yoga), mental activities (creative workshops, learning), spiritual activities, medicine (herbs, vitamins, minerals) and alternative medicine (acupuncture, reiki, homeopathy) (Karn, Amarkantak & Swain, 2017).

For this reason, the terms wellness tourism, wellness tourist, wellness hotel, wellness service, hotel, wellness services, wellness centre, and so on, as the most frequently used terms in the literature, are also used in our analysis.

Various studies provide an overview of the existing literature and most prominent research topics (Kirilenko & Stepchenkova, 2018; Strandberg et al., 2018; Ballantyne et al., 2009; Wang, Togtokhbuyan & Yadmaa, 2021).

Kirilenko and Stepchenkova (2018) examined tourism research from its inception to the present, its subject areas, geography, and gender distributions. The authors used the Latent Dirichlet Allocation (LDA) text mining approach to discover long-term trends in academic tourism research. They analysed the abstracts of published high-ranking tourist papers from 1970 to 2017 from the Scopus database. The results revealed that scholarship geography has significantly expanded, and female authorship has nearly equalled male authorship in recent years.

Strandberg et al. (2016) assessed studies published in the journal *Tourism and Hospitality* using 18 study areas: eTravel, technology, policy, globalization, consumer behaviour, eTourism, leisure and culture, among others. The authors introduced education as a new category and categorized 292 studies based on their main themes.

Ballantyne et al. (2009) examined trends in tourism research, analysing 2,868 research articles distributed in 12 influential travel industry journals from the list given by McKercher, Law and Lam (2006) from 1994 to 2004, arranging them into 21 categories. The following areas were examined "tourist/visitor studies; destinations; tourism planning; marketing; cultural tourism; economic issues; tourism impacts; tourism trends; tourism research issues & methods; hospitality; eco-tourism; sustainable development; special events; transport; management; human resource management; environmental interpretation; tourism policy; tourism education and training; business tourism; and sports and leisure" (Ballantyne et al., 2009). The results showed the propensity for more studies on more recent themes to apply a quantitative methodology.

Wang, Togtokhbuyan and Yadmaa (2021) examined the international wellness tourism Web of Science literature from 1992 to 2019, quantitatively analysing 2,154 documents using Citespace software. The authors revealed that the research focus within the past ten years has slowly moved from centring on the effects of tourism assets such as physical well-being, mental well-being, and hot spring tourism on wellness tourism, to topics such as visitor fulfilment, goal administration, and execution administration in a universal setting.

3   Research methodology

Technologically aided research is becoming a very relevant approach to systemizing and quantifying the topics examined within a particular body of literature, and methods such as text mining and natural language processing algorithms (NLP) are of great use for analysing and organizing the existing knowledge. Some of the main advantages of these methods include speed, reproducibility and reliability in the processes of classifying and categorizing text (O'Connor, Bamman & Smith, 2011).

Due to their ability to spot patterns in a huge amount of data, these techniques are also useful in tourism research, and are mostly used to better understand the opinions (and sentiments) tourists express on popular online platforms such as TripAdvisor (e.g. Xiang, Du, Ma & Fan, 2018; Taecharungroj & Mathayomchan, 2019).

For the purposes of providing an overview of the wellness tourism research literature, in this study we have applied a text mining method called topic modelling. This method is frequently used to detect latent topics in a corpus, and it aims at identifying topics (themes) that appear in the text by identifying and grouping words that occur simultaneously. Topic modelling is a probabilistic statistical technique for semantic structures, and it is considered as very efficient in document (text) clustering (Curiskis, Drake, Osborn & Kennedy, 2020). As such, it has been previously used in tourism research, mainly for review analysis and classification (e.g. Calheiros, Moro, & Rita, 2017; Rossetti, Stella & Zanker, 2016). Our study focuses on topics that appear in the scientific wellness tourism literature, and therefore analyses topics and patterns that appear in the abstracts of scientific articles, similar to already conducted research in other tourism research fields (e.g. Zach, Krizaj & Pretnar, 2019).

3.1 Data collection

As our research aimed at systemizing the existing knowledge on wellness tourism, we tried to collect as many studies available from this field as possible. In order to create a corpus, we conducted several searches in Scopus for relevant articles. A combination of keywords was created so that they reflect the terminology commonly used in this literature field, and it consisted of the following queries: "Wellness touris*", "Wellness hotel*", "Wellness service*" AND hotel* , "Wellness service*" AND touris*, "Wellness center*" AND hotel*, "Wellness center*" AND touris* . The search was conducted in August 2020, while the data cleaning took place in September 2020. Only articles and reviews written in English were taken into consideration for this research. Manual inspection of the manuscripts was done, and 212 articles and reviews were selected due to their clear relation with the wellness tourism literature. Their abstracts were downloaded and used in topic modelling analysis.

3.2 Data analysis

Our analysis was conducted on the abstracts of articles from the wellness tourism literature. As this corpus contained a lot of noise (words that cannot be given thematic meaning such as grammatical articles, (personal) pronouns and function words), the raw text needed to be preprocessed before it could be used in the

analysis. Several well-established procedures of data preparation were applied (Gharatkar, Ingle, Naik & Save, 2017; Malley, Ramazzotti & Wu, 2016). The Python libraries numpy and pandas, both well known in the data science community, were used extensively throughout the entire process of data preparation, along with several other steps, each specialized for a particular task. The following data preprocessing steps were applied:

- **Language check.** The language of the abstract was checked (once again, as the primary language check was done in article selection). All abstracts were written in English and therefore kept for further analysis.
- **Conversion to lower-case.** All words from the selected abstracts were converted to lower-case.
- **Spell check.** Every word in every abstract was checked for spelling and corrected using the Speller Python library.
- **Removal of stop-words.** Stop-words such as "I", "are", "and", "the", etc. were removed, as such common words tend to overwhelm the results.
- **Removal of special characters and numbers from the text.**
- **Lemmatization.** Lemmatization is a process of grouping different forms of morphologically connected words so that they can be analysed as a single item, identified by the lemma of the word, i.e. both "touristic" and "tourist" share the same lemma and become "tourist".

After the procedure of data preprocessing and cleaning was finished, we have proceeded with topic modelling analysis.

4   Results

In our topic modelling analysis of wellness tourism literature, Python Gensim library was used. This library enabled us to generate a mathematical model that classifies words by topic. To determine an optimal number of topics that appear in our data, we ran a Gensim Coherence Model (Röder, Both & Hinneburg, 2015). The limits for the number of topics in such an analysis need to be set by the researchers, and our thresholds were two and 25. The coherence score chart (showing the mathematical appropriateness for each number of topics) for the values between is shown in Figure 1.
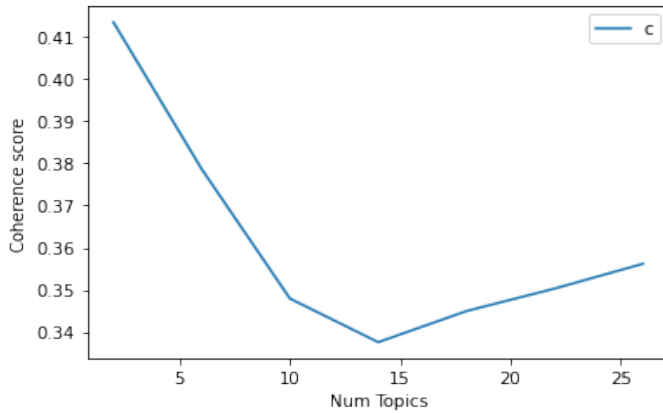
Figure 1: Coherence score for 2-25 topics
Source: own

From Figure 1, we can see that the highest coherence score was obtained for the options with the lowest number of topics. Options with ten or less topics thus seemed to be the most appropriate to describe the wellness tourism literature. After obtaining these results, we narrowed down our projected number of topics to anywhere between two and 10, since these values in the initial chart obtained the highest values. This analysis showed that two topics got the best results (0.413) for the coherence score (Figure 2). Therefore, our conclusions and comments related to wellness tourism research focus on the two main topics that were identified.
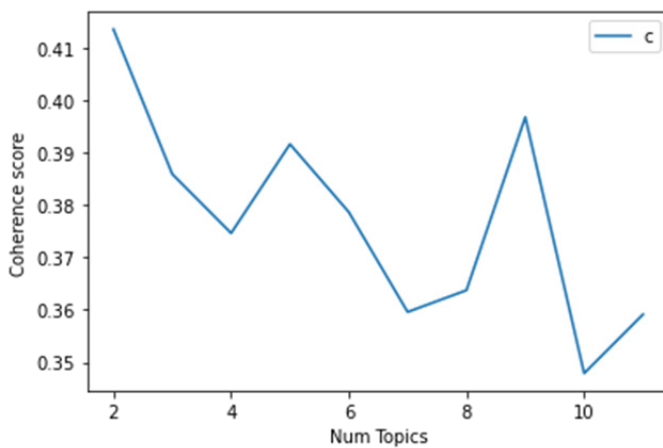

Figure 2: Coherence score for 2-10 topics
Source: own

4.1   Analysis of topics

Our results implied that the existing research in wellness tourism can mainly be classified under two topics. The search for the keywords that are most frequently used in abstracts included in the study was once again conducted using Python and Gensim libraries. The software identified the eight most commonly used keywords per topic.

The first topic places content from wellness tourism abstracts in the context of health and medical aspects. As already discussed, wellness tourism research historically shows a close connection to health and medical tourism. The development of the wellness tourism literature has emerged from health and medical tourism studies, where wellness researchers saw an opportunity to complete our knowledge about the body by incorporating several other elements of immediate importance for its health, including mind and fitness. Therefore, the findings of this study lead to the similar conclusion - health and medical tourism are heavily researched in the wellness tourism literature.

The second identified topic captures the core of wellness tourism research. Keywords like wellness, tourist, travel and destination belong to this topic. Wellness tourism destinations are among most researched concepts within the literature, where researchers aimed at providing a better understanding of the characteristics that wellness destinations need to offer in order to ensure a proper experience (e.g. Voigt, & Pforr, 2013; Prideaux, Berbigier & Thompson, 2014). Complementary to this, the analysis also identified the importance of experience and activity for wellness tourism, as those keywords emerged among the top eight in the wellness tourism cluster. In the literature, wellness tourism experience is considered to be of utmost importance for holistic wellness and tourism inspiration, along with the building of tourist loyalty and improving quality of life (e.g. Luo, Lanlung, Kim, Tang & Song, 2018; Dillette, Douglas & Andrzejewski, 2021).

Table 1: The most prominent research topics

Topic	Keywords detected
Health and medical aspect	Tourism, health, service, medical, spa, development, market, industry
Wellness tourism	Wellness, study, tourist, destination, experience, travel, research, activity

Source: own

5   Conclusions and Implications

This study aimed at providing a brief overview of the development of wellness tourism research, as well as the topics that emerge in studies from this field. The results imply that the topic from which wellness tourism research emerged (i.e. health and medical tourism) still plays an important part in the wellness tourism literature, although wellness tourism has now established itself as a topic worthy of thorough research itself.

Modern lifestyles open new needs and demands for wellness tourism services. Tourists in the past did not necessarily spend significant amounts of time or resources on touristic activities. Instead, when suffering from an ailment they turned to medical and health treatments, most of which were available in spas that were also part of touristic offers. Over time, with the development of society, increase in disposable income and switch to a preference for hedonic and holistic experiences, a need for fuller, more complete offers was born, which triggered the development of wellness tourism, and consequently attracted the interest of researchers as well. The research we examined in our topic modelling analysis confirms the relevance of both health and medical and wellness tourism aspects (i.e. topics) for the wellness tourism research field as we know it today.

While this study has identified the presence of the two major topics within the wellness tourism research field, the ways in which they interact have not yet been explained. Therefore, future research efforts might devote more attention to the connection between health and wellness within novel wellness tourism research in order to better understand the strength and nature of this relationship.

In addition, further research is needed in order to detect ways in which the wellness tourism field differentiates itself from the health and medical tourism literature. While the closeness of the fields implies numerous opportunities for mutual development and knowledge sharing, it is still necessary to understand and pinpoint the specifics that strengthen the uniqueness of these distinct fields.

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