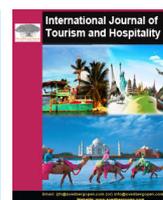




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Recent trends and future outlooks of tourists' sustainable behavior and sustainable development goals

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Abstract

This paper reviewed and analyzed peer-reviewed journals related to tourists' sustainable behavior and their contribution to the Sustainable Development Goals (SDGs) developed by the United Nations in the 2030 Agenda. Based on a keyword-driven search, 127 articles were identified as relevant from the selected journals and analyzed by content analysis with a pragmatic approach. The findings revealed that (a) the number of publications in this area had a downtrend except those focusing on 'attitudes'; (b) the geographical region of the articles mostly focused on few countries; (c) quantitative research methods were still dominant; and (d) around 58% of the articles related to Goal 8, 11 and 12 of the SDGs. This paper discussed the above findings to illustrate the overall trends of this topic in academia and its limitation.

Keywords: *Tourists' sustainable behavior, Sustainable development goals, SDGs, Sustainability.*

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1. Introduction

The tourism industry is one of the central pillars of the world economy nowadays. From the world tourism barometer, the international tourist arrivals worldwide grew 4% in 2019 to reach 1.5 billion (UNWTO, 2020). Apart from the contribution to the world economy, it brings along many issues that collectively known as 'overtourism'. It is defined as "the physical, psychological, economic and social capacity of a destination has been exceeded at a particular time" (Sharpley, 2020). However, the tourism industry was not included in the initial discussion of sustainable development of the world as a contributing factor to, nor a solution for, the problem. The World Commission on Environment and Development (WCED) first defined sustainable development in the Brundtland Report due to the environmental crisis that started affecting the living standard of humanity (WCED, 1987). It is defined as:

"...a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development; and institutional change are all in harmony and enhance both current and future potential to meet human needs and aspirations" (WCED, 1987).

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The Brundtland report is broadly addressed the overarching issue in terms of the pressure posting on the environment by the economic development and the consequences that may affect humanity in the near future. It also provided a new perspective of economic development should grow in harmony with the environment and society (Keong, 2016). To tackle the tourism issues causing by the ever-growing industry, tourism was internationally recognized as a contributing factor to sustainable development in the UN Conference on Environment and Development in 1992 (UN, 1992). Dang and Jamal (2016) presented a chronological evolution of sustainable development and sustainable tourism. It clearly stated that the definition of sustainable tourism was firstly introduced in 1994 by UNWTO and initiated the pledge to all governments and the tourism industry to engage in sustainable tourism practices. Since then, the United Nations took the lead to drive sustainable development programs (Mowforth and Munt, 2008). Furthermore, the Triple Bottom Line (TBL), i.e., environmental, sociocultural and economic, has been introduced to the theory of sustainability on top of the definition in 1994 by John Elkinton (Goebel et al., 2020).

The progress of the UN facilitation on sustainable development was recognized by the academic. Bäckstrand and Kylsäter (2014) found that the facilitation of the UN still strongly influencing the public-private partnerships in between the 2002 World Summit on Sustainable Development and the 2012 UN Rio+20 Summit. In 2015, the UN carried forward the efforts from the Millenium Sustainable Goals and further initiated the 2030 Agenda with 17 Sustainable Development Goals (SDGs) and 169 targets to aim for transforming the world until the year 2030 (UN, 2015). The SDGs and the related targets are claimed to “be integrated and indivisible and balance the three dimensions of sustainable development: the economic, social and environmental” (UN, 2015). The World Tourism Organization (UNWTO) responded actively to the initiative and explained the relationship of these SDGs with the tourism industry (UNWTO, 2015). It highlighted that tourism has a significant impact on three particular goals: “Decent work and economic growth” (8), “Responsible consumption and production” (12) and “Life below water” (14) (UNWTO, 2015). Since the publishing of SDGs, academia started investigating the relationship of the existing sustainable tourism practices to the underlying principles of SDGs and their related goals. Nevertheless, it is found that not all SDGs were equally investigated by academia since their publishment in 2015 (Rasoolimanesh et al., 2020). The dominant force of economic development to drive sustainable development reflected by Goal 8 of SDG, i.e., decent work and economic growth, is the most researched SDG from 2016 to 2018, followed by Goal 15 Life on land and Goal 3 Good health and well-being (Rasoolimanesh et al., 2020). A keyword search in Scopus with “SDGs” and “touris*” showed that the number of peer-reviewed journals in tourism studies that related to SDGs is proliferating from 2016 to 2020 (Figure 1). Within these 57 papers, the most popular topics are related to corporate social responsibility, hotel management, carbon footprint, and bibliometric and systemic literature review of sustainable tourism (Table 1). Other topics include quality education, ending poverty, small island destination development, government policy. The research trend has changed from a heavy focus on environmental sustainability to other social sustainable areas (Ruhanen et al., 2019). However, only one of the articles related to tourists’ sustainable behavior, i.e. to engage the children, an essential stakeholder in tourism, in sustainability tourism education as a long-term transformational and behavioral-changing strategy (Seraphin et al., 2020).

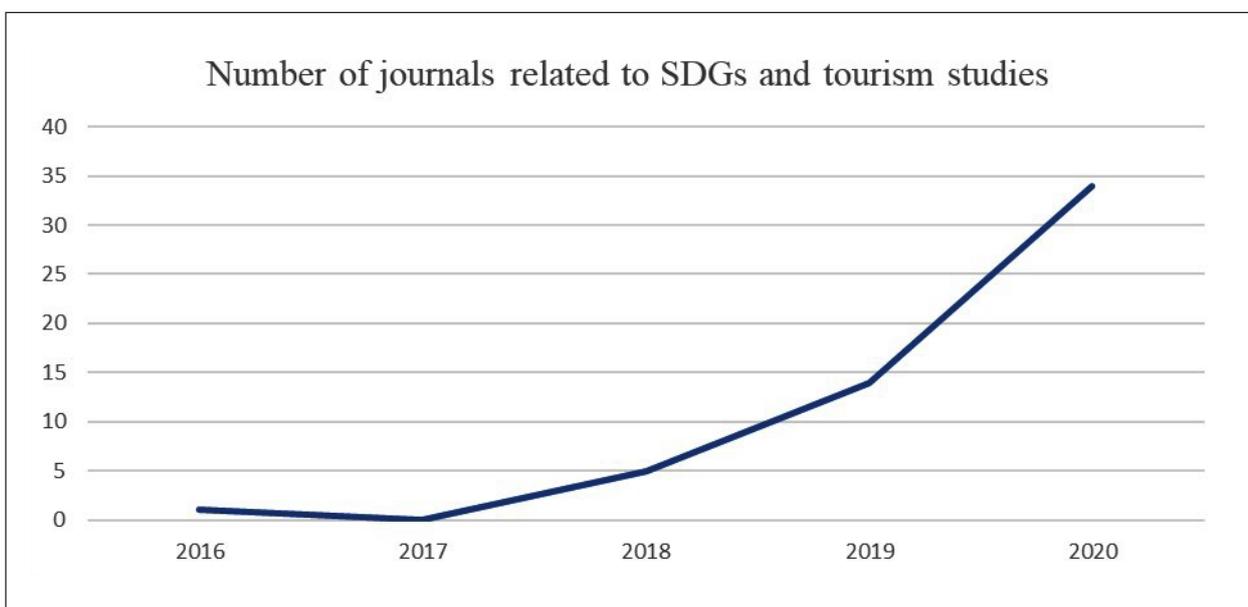


Figure 1: Total number of peered review journals related to SDGs and tourism

On the other hand, it is argued that any forms of alternative tourism will not exist if there are no tourists (Goodwin, 2011). Tourist is identified as one of the two stakeholders group by WTO (Byrd, 2007). Nevertheless, it is found that tourists to be the least engaged stakeholder group in many research related to sustainable tourism (Rasoolimanesh *et al.*, 2020; Zolfani *et al.*, 2015). Furthermore, academics regularly reviewed the research progress of specific topics. It contributes to the field with a comprehensive and thorough revision of that topic and forward-looking guidance of future research. Recently, many scholars have reviewed the literature of sustainable tourism development under different contexts, namely: sustainable tourism indicators, the competitiveness of the supply side, circular economy, resources consumption, digital sustainability, tourists' attitude, green dining (Boar *et al.*, 2020; Della Corte *et al.*, 2019; Moyle *et al.*, 2020; Passafaro, 2020; Streimikiene *et al.*, 2020; Del Gaudio *et al.*, 2019; Higgins-Desbiolles *et al.*, 2019; Zolfani *et al.*, 2015). However, none of them is reviewing the overall tourists' sustainable behavior and only one review for the customer behavior in tourism within this decade (Cohen *et al.*, 2014). Moreover, there were only 39 studies of behavior change from 1987 to 2017 (Moyle *et al.*, 2020).

Category	Article title	Source
Corporate Social Responsibility	A research on the combination of oblique photography and mobile applications based on the sustainable development of tourism	Lin, Li and Zhou (2020)
	Corporate social responsibility and organizational performance in the tourism sector	Moneva, Bonilla-Priego and Ortas (2020)
	Exploring the applicability of sustainable development goals in Costa Rica: case examples from Mastatal and Conchal.	Kandler Rodríguez (2020)
	Eco-innovative museums and visitors' perceptions of corporate social responsibility	Chung, Tyan <i>et al.</i> (2018)
	Sustainability of Hotel, How Does Perceived Corporate Social Responsibility Influence Employees' Behaviors?	Kong, <i>et al.</i> (2019)
Hotel Management	A description of green hotel practices and their role in achieving sustainable development	Abdou, <i>et al.</i> (2020)
	A social-cognitive framework of small accommodation enterprise sustainability practices	Agyeiwaah (2020)
	Fiction or reality? Hotel leaders' perception on climate action and sustainable business models	Dick-Forde, <i>et al.</i> (2020)
	Sustainable development of mountain hotels through the implementation of international management standards: The Romanian case	Firoiu, <i>et al.</i> (2019)
CO ₂ Emission	Dynamic linkages between tourism, technology and CO ₂ emissions in Pakistan	Kumail, Ali, Sadiq, Wu and Aburumman (2020)
	Decarbonising the Galapagos Islands: Techno-economic perspectives for the hybrid renewable mini-grid Baltra-Santa Cruz	Eras-Almeida, <i>et al.</i> (2020)
	Tourism carbon footprint inventories: A review of the environmentally extended input-output approach	Sun, Cadarso and Driml (2020)

Table 1 (Cont.)		
Category	Article title	Source
	Tourism, environment and energy: an analysis for China	Sharif, Saha, Campbell, Sinha and Ibrahiem (2020)
Bibliometric and Systematic Literature Review	A bibliometric analysis of sports tourism and sustainability (2002-2019)	Jiménez-García, Ruiz-Chico, Peña-Sánchez and López-Sánchez (2020)
	A systematic scoping review of sustainable tourism indicators in relation to the sustainable development goals	Rasoolimanesh, Ramakrishna, Hall, Esfandiari and Seyfi (2020)
	Are we really progressing sustainable tourism research? A bibliometric analysis	Moyle, Moyle, Ruhanen, Weaver and Hadinejad (2020)
	Sustainable development goals and the strategic role of business: A systematic literature review	Mio, Panfilo and Blundo (2020)

‘Tourist behavior’ is derived from the consumer behavior theories of the traditional marketing and management field (Cohen *et al.*, 2014). Consumer behavior can be defined as a study of the decision-making process, i.e., from selection to post-purchase evaluation, over time with respect to marketing offering (Gupta and Singh, 2020). When adopting this definition by the tourism field, Moutinho (1987) has written a comprehensive theoretical analysis of the uniqueness of vacation tourist buying decision:

“The tourist buying decision presents some unique aspects: it is an investment with no tangible rate of return, and the purchase is often prepared and planned through savings made over a considerable period of time. That is, the vacation tourist will invest with no expectation of material and economic return on his or her purchase of an intangible satisfaction” (Moutinho, 1987, p. 5).

The vacation tourist behavior model developed by Moutinho (1987) segregated the buying decision process into three stages: the pre-decision and decision processes, post-purchase evaluation, and future decision making. Kotler *et al.* (2017) presented a model of consumer behavior in the hospitality and tourism industry, similar to the model proposed by Moutinho. To summarize these definitions and models, the tourist behavior includes internal and external stimuli, needs recognition, selection and acquisition, purchase, maintenance, evaluation and other post-purchase behaviors, and repeat buying probabilities (Gupta and Singh, 2020; Kotler *et al.*, 2017; Moutinho, 1987). Nevertheless, critics of the existing research of consumer behavior are fragmented with the following causes (Cohen *et al.*, 2014):

1. Many concepts are replica from marketing and general management fields to tourism;
2. Even investigating the same area of customer behavior, the results are not comparable due to the difference in research contexts, e.g., tourist types or destinations;
3. Quantitative approaches are not effective in quantifying the effect of independent stimuli in the buying process on behavioral responses dominate the research field, yielding erroneous causality effects;
4. Few studies use longitudinal and/or holistic approach to understand the behavior or processes because of tourist.

Fragmentation was also observed in the research of tourists’ sustainable behavior. First of all, there is no consensus on the name of tourist behavior in sustainable tourism among researchers. Many research may use ‘pro-environmental behavior’ (Moghimehfar and Halpenny, 2016; Kim and Filimonau, 2017), ‘ecotourism behavior’ (Lee and Jan, 2018a, 2018b) and green behavior (Line *et al.*, 2018; Paço *et al.*, 2013). These names are implied that sustainable behavior is equivalent only to those behaviors related to environmental perspective, and other aspects of sustainable tourism, i.e. social, economic, cultural, political and ethical issues, are excluded (Moyle *et al.*, 2020). In order to acknowledge other aspects of sustainable tourism, this study adopted ‘tourists’ sustainable behavior’ suggested in the article of Passafaro (2020), which regard the tourists’ choice and the action should be analyzed according to the definition of sustainability by UNWTO.

As Moyle *et al.* (2020) suggested that sustainable tourism research should focus on how tourism can contribute to the overall sustainable development objectives, e.g., SDGs, this article evaluates the academic output of tourists' sustainable behavior by using the content analysis to summarize the contribution of academia on The 2030 Agenda for Sustainable Development. A pragmatic approach is adopted in this review because this paradigm offers a practical approach to evaluate the contribution.

2. Methodology

This paper adopted pragmatism as the philosophical stance and using content analysis as the tool to assess the knowledge from the existing literature. Pragmatism considers knowledge as “a tool for action such that the interpretation which enhances the capacity for positive change is favored by the researcher” (Flick, 2014). Although the Sustainability Development Goals Report 2020 sounds pessimistic about achieving the goal in the year 2030, the authors believe that any improvement towards the sustainability goals will lay a good foundation for the next initiative in sustainable development. This study aims to provide a clear summary and direction for future research to contribute to the SDGs. As tourism studies embracing origin from a wide variety of disciplines such as geography, economics, sociology etc., it is believed that ‘mixed-methods’ will be an emerging approach in tourism research if supporting by pragmatism as a philosophical paradigm that enhances the credibility of the methods adopted (Pansiri, 2005). Content analysis is chosen as it allows the data to be analyzed in mixed methods, i.e., qualitatively and quantitatively at the same time, and is suitable for exploratory work (Vaismoradi *et al.*, 2013).

The first step was to select a database for data collection. Two rounds of data collection were performed between October and November 2020. The first round includes all related peer-reviewed articles from journals of the first and second quartile in Scopus, Web of Science (WoS) and Google Scholar from the year of 2016 to 2020, as The 2030 Agenda was published in late 2015 and many types of research regarding sustainable tourism proliferate after 2015 (Della Corte, 2019). However, the number of related articles was too large for the limited time frame. The second round of data collection limited the area of data collection to the four (4) tourism-focused journals, Tourism Management (TM), Journal of Travel Research (JTR), Annals of Tourism Research (ATR) and International Journal of Tourism Research (IJTR) in only one search engine, Scopus. The reason for choosing the first three journals is that their SJR scores are the top three based on the SJR indicator and have continued to play a vital role, contributing more to the theoretical rather than practical debate (Ruhanen *et al.*, 2019). Although Current Issues in Tourism and Tourism Management Perspectives have higher SJR Indicators over IJTR, the rationale for choosing IJTR over these two journals is that IJTR has a higher percentage of international collaboration than the other two journals (SCImago, 2020). For the searching engine, Scopus is chosen over the two other search engines because it incorporates a more extensive collection of refereed literature than the other two (Rasoolimanesh *et al.*, 2020).

The second step is refining the keyword search. As it is discovered that tourist behavior in sustainable tourism has various names, a generic term “tourism behavior” and the US spelling “tourism behavior” were initially used to avoid excluding any potentially related articles. Then, the keyword function in Scopus was utilized to refine the search. Fourteen extended keywords according to the UNWTO descriptors of the SDGs (Ruhanen *et al.*, 2019). Afterwards, there were 129 articles shortlisted, including two review papers. The final number of articles is 127 from the year 2016 to November 2020. By referring to the SDGs descriptor, this will minimize the personal biases of the authors.

The next step was to analyze the content of the shortlisted articles. However, there is lacking an overall model of tourists' sustainable behavior to understand this topic better. The existing literature is dominated by the environmental area of the TBL of sustainable development. Do Paço *et al.* (2013) confirmed a green consumer behavior model by the quantitative method that established the value-attitude-behavior hierarchy and the relationship between attitudes and behavior. Recently, the attitude-behavior gap is one of the major research areas of tourists' sustainable behavior research (Fennell and Cooper, 2020). Several theories, e.g., the theory of planned-behavior, attitude-behavior gap, value-belief-norm theory, have been deployed and tested through empirical research to understand how tourist' behavior can be influenced by the attitude in sustainable tourism (Denley *et al.*, 2020; Ibnou-Laaroussi, 2020; Juvan and Dolnicar, 2014). However, mixed results were presented as having a positive attitude may not lead to actions. Budeanu (2007) proved that informative tools would only positively affect the attitude of tourists towards sustainable behavior but not the driving force of their behavioral change. Juvan and Dolnicar (2014) discovered that those participants used a wide range of explanations to justify their non-sustainable tourist behavior even they had a pro-environmental attitude. In order to have a better focus of the analysis, the nine key concepts in tourism consumer behavior summarized by Cohen *et al.* (2014) will be utilized to categorize the tourists' sustainable behavior described in the shortlisted articles. The nine key concepts are decision-making, values, motivations, self-concept and personality, expectations, attitudes, perceptions,

satisfaction, and trust and loyalty. After the sample articles are categorized, the trend of these nine key concepts will be analyzed.

Therefore, the shortlisted articles will be analyzed in terms of the year of publication, geographical distribution, research methods, mapping of the articles to the SDGs and the number of articles according to the nine-key concepts in consumer behavior summarized by Cohen *et al.* (2014). The analysis will follow a discussion, and future research direction and limitation will be suggested.

3. Findings and analysis

3.1. Overview of tourists sustainable behavior research

The following descriptive findings are based on the final 127 articles identified for detailed synthesis. Our aim in this section is to showcase the development of the research area in terms of journals, publication output and frequency, geographic dispersion, authorship, methodology, and key findings in relations to Sustainable Developments Goals (SDGs) and Consumer Behavior (CB) concepts.

Journal	SCImago journal rank (2019)	Country of publication	Number of articles (N)	Percentage in total (%)
<i>Annals of Tourism Research (ATR)</i>	2.228 (Q1)	United Kingdom	20	15.7
<i>International Journal of Tourism Research (IJTR)</i>	1.032 (Q1)	United Kingdom	24	18.9
<i>Journal of Travel Research (JTR)</i>	3.014 (Q1)	United Kingdom	31	24.4
<i>Tourism Management (TM)</i>	3.068 (Q1)	United Kingdom	52	40.9

The search resulted in a total of 127 articles. The journals from which articles were collected for analysis are presented in ‘Table 2’, together with their respective SCImago Journal Rank, the number of articles selected per journal, and the country of origin of the journal. The journal with the most relevant articles for this research is TM (N = 52, 40.9%), followed by the JTR (N = 31, 24.4%), the IJTR (N = 24, 18.0%) and the ATR (N = 20, 15.7%).

3.1.1. Publication by year

Figure 2 presents the dispersion of publications across the period between 2016 and 2018. The literature search revealed that there had been a general decline in research output since 2018, despite the gradual increase of publications from

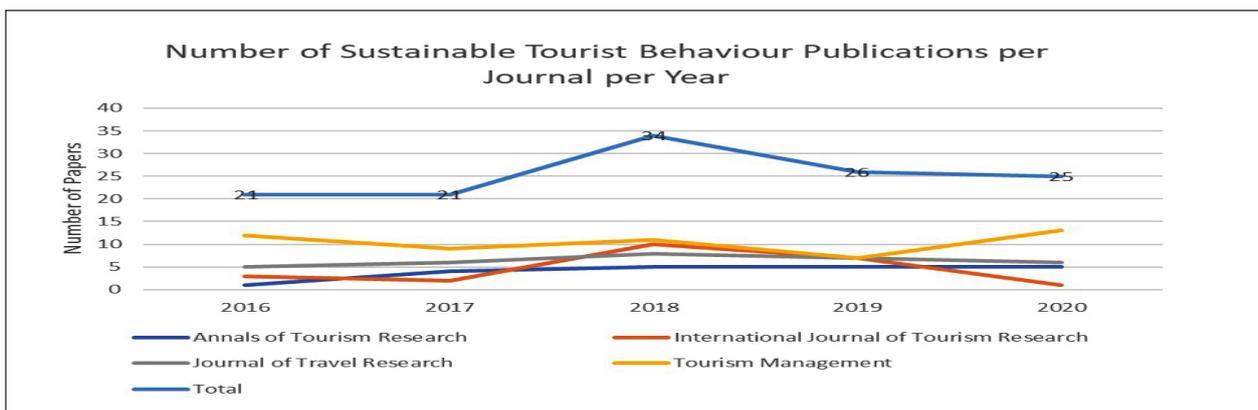


Figure 2: Number of sustainable tourist behavior publications per journal per year

ATR. Since 2016, the ATR has published one paper, rising to four papers in 2017, five papers in 2018, and remained constant in 2019 and 2020. The publication rate in the JTR has remained steady in the last five years at an average of four papers per year, though it showed a downward trajectory from eight publications in 2018 to six publications in 2020. More than 40% of the articles published in TM have appeared in the past five years, with its highest output of thirteen publications in 2020. The publications from the IJTR varied from ten being the highest in 2018 and one being the lowest in 2020.

3.1.2. Publication by geographical distribution

'Figure 3' is a Pareto distribution showing the number of publications by country as determined by the locations of the author's institutions. Four countries, including the United States (US), United Kingdom, China, and Australia, account for nearly 50% of the articles selected on sustainable tourist behavior. The most frequently studied country was the US (38 papers).

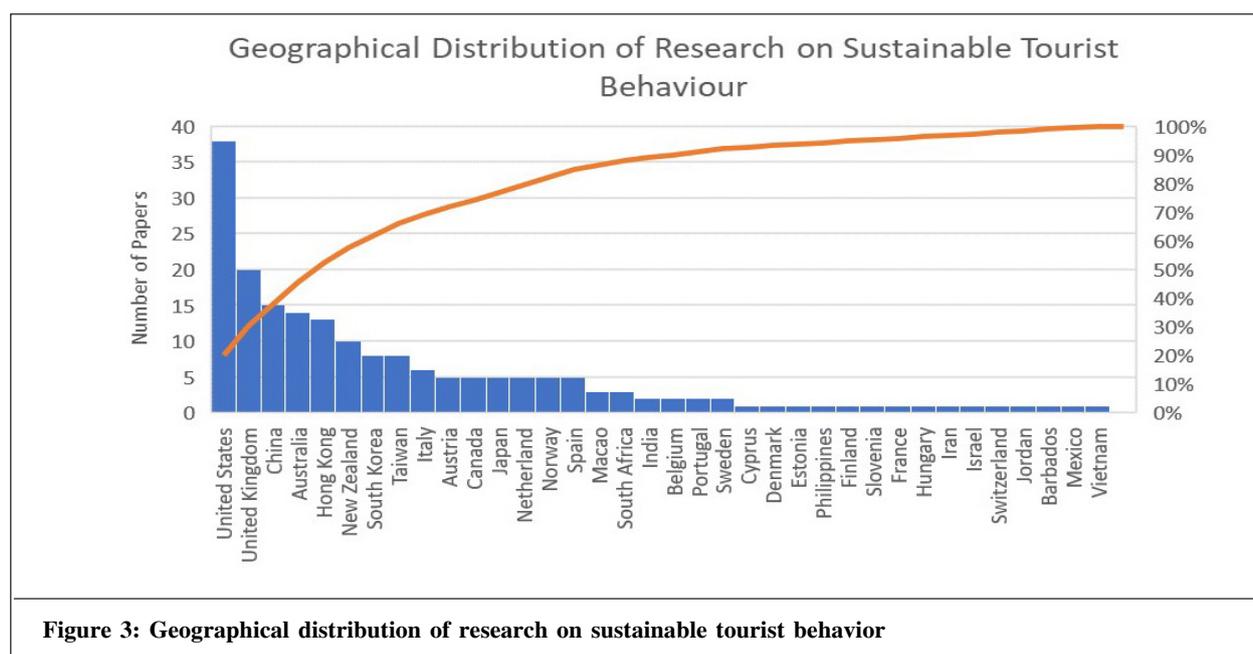


Figure 3: Geographical distribution of research on sustainable tourist behavior

3.1.3. Publication by research method

'Table 3' presents an overview of the research method of the sample studies. The studies (N = 86, 67.7%) employed quantitative methods, followed by qualitative = 37, 29.1%), and the mixed-method approach (N = 4, 3.1%), including quantitative qualitative methods. Overall, as seen in 'Figure 4,' more quantitative reviews were than qualitative reviews in the research focus of sustainable tourist behavior.

Research method	N	%
Qualitative	37	29.1
Quantitative	86	67.7
Mixed Methods	4	3.1
Total	127	

3.1.4. Publication by authorship

'Table 4' indicates that 10.2% of publications were single-authored, 26.0% were produced by two authors, and 40.9% were produced by three authors; only 4.7% had more than five authors. Hence, triple authorship was the norm for sustainable tourist behavior publications during the five-year period. The same is reflected in 'Figure 5.'

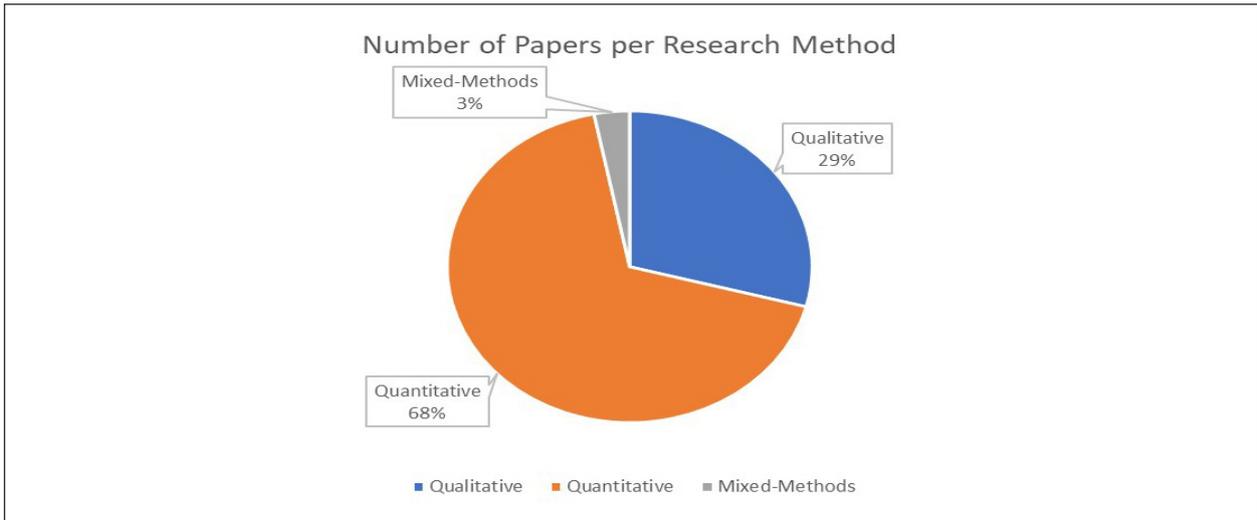


Figure 4: Number of papers per research method

‘Table 5’ reflects a cohort of authorship in sustainable tourist behavior research in the five-year period, 2016-2020. It reviews that the trend for multi-author papers had consistently grown over the years. The mean number of authors per research publication grew from 2.375 in 2016 to 2.875 in 2020. However, as reflected by ‘Figure 6,’ the increase in the

Table 4: Number of authorship in sustainable tourist behaviour research

Number of authors	Number of papers (N)	Percentage of total papers (%)
1	13	10.2
2	33	26.0
3	52	40.9
4	18	14.2
5	5	3.9
More than five	6	4.7
Total	127	

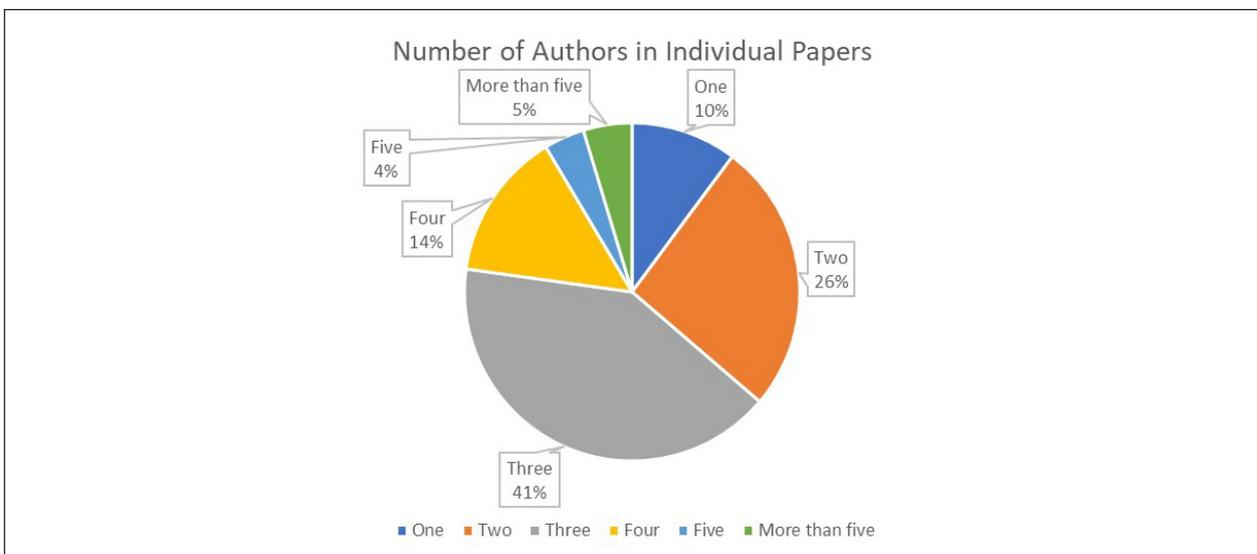


Figure 5: Pattern of authorship

Table 5: Number of paper with multi-authorship in sustainable tourism research

Year	Mean number of authors	Number of papers	Standard deviation
2016	2.375	19	4.912
2017	2.375	19	3.655
2018	3.875	31	4.390
2019	2.750	22	3.852
2020	2.875	23	2.973
2016-20		127	

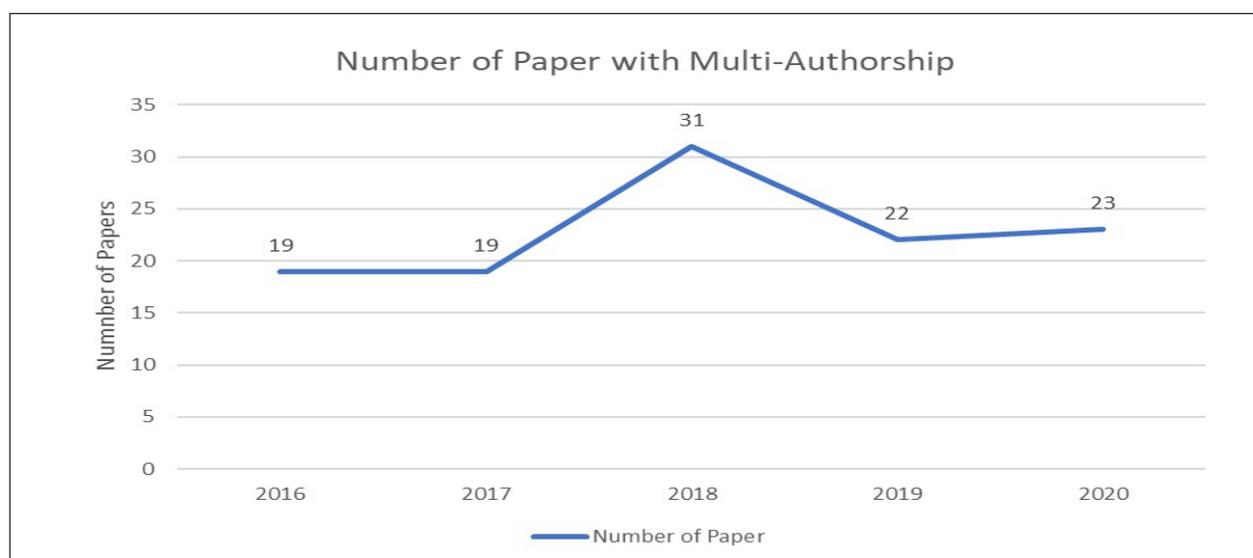


Figure 6: Trend in multi-authors in sustainable tourist behaviour research

number of authors for individual papers was not consistent across the years; a minor drop in the number of research publications with multi-authors was noted in 2019.

3.1.5. Publications by SDGs

‘Table 6’ summarizes the frequency with which the papers reviewed in this study concerning the 17 SDGs. The SDG with the most publications was GOAL 8 “Decent Work and Economic Growth” with a little over 30 related articles, followed by GOAL 11 “Sustainable Cities and Communities” ($n = 24$) and GOAL 12 “Responsible Consumption and Production” (19). GOAL 7 “Affordable and Clean Energy” had the least amount of related publications, with only one article published.

The SDGs that experienced the most growth in terms of the number of publications were related to responsible consumption and sustainability. ‘Figure 7’ reviewed that GOAL 11 “Sustainable Cities and Communities” grew from three papers in 2018 to 8 papers in 2020, followed closely by GOAL 12 “Responsible Consumption and Production” grew from one article in 2017 to six articles in 2019. A significant drop in research interest was shown in GOAL 8 “Decent Work and Economic Growth” from ten papers in both 2016 and 2017 to two papers in 2020. Steadily rising in publication interests related to GOAL 14 “Life Below Water” is also shown in ‘Figure 5’ from one paper in 2018 to two papers in both years 2019 and 2020.

The SDGs that showed the strongest international collaboration, which means more than five international researchers working and authoring together, were related to responsible consumption, sustainability, and environmental issues. ‘Table 4’ exhibits that there are six papers that are published by more than five authors. Within these papers, papers regarding GOAL 3 “Good Health and Well-being” only feature 16.7% ($N = 1$) international collaborations. GOAL 11 “Sustainable Cities and Communities” showed 50% of papers ($N = 3$) featuring international collaboration, followed by GOAL 12 “Responsible Consumption” ($N = 2, 33.3\%$) and GOAL 14 “Life Below Water” ($N = 2, 33.3\%$).

Table 6: Number of papers with relevance to the SDGs

SDGs	Number of papers applicable to SDGs (N)	Percentage of Total papers (%)
GOAL 1: No Poverty	0	0
GOAL 2: Zero Hunger	0	0
GOAL 3: Good Health and Well-being	5	3.9
GOAL 4: Quality Education	0	0
GOAL 5: Gender Equality	0	0
GOAL 6: Clean Water and Sanitation	0	0
GOAL 7: Affordable and Clean Energy	1	0.8
GOAL 8: Decent Work and Economic Growth	31	24.4
GOAL 9: Industry, Innovation, and Infrastructure	5	3.9
GOAL 10: Reduced Inequality	0	0
GOAL 11: Sustainable Cities and Communities	24	18.9
GOAL 12: Responsible Consumption and Production	19	15.0
GOAL 13: Climate Action	7	5.5
GOAL 14: Life below Water	5	3.9
GOAL 15: Life on Land	2	1.6
GOAL 16: Peace and Justice Strong Institutions	7	5.5
GOAL 17: Partnerships to Achieve the Goals	3	2.4

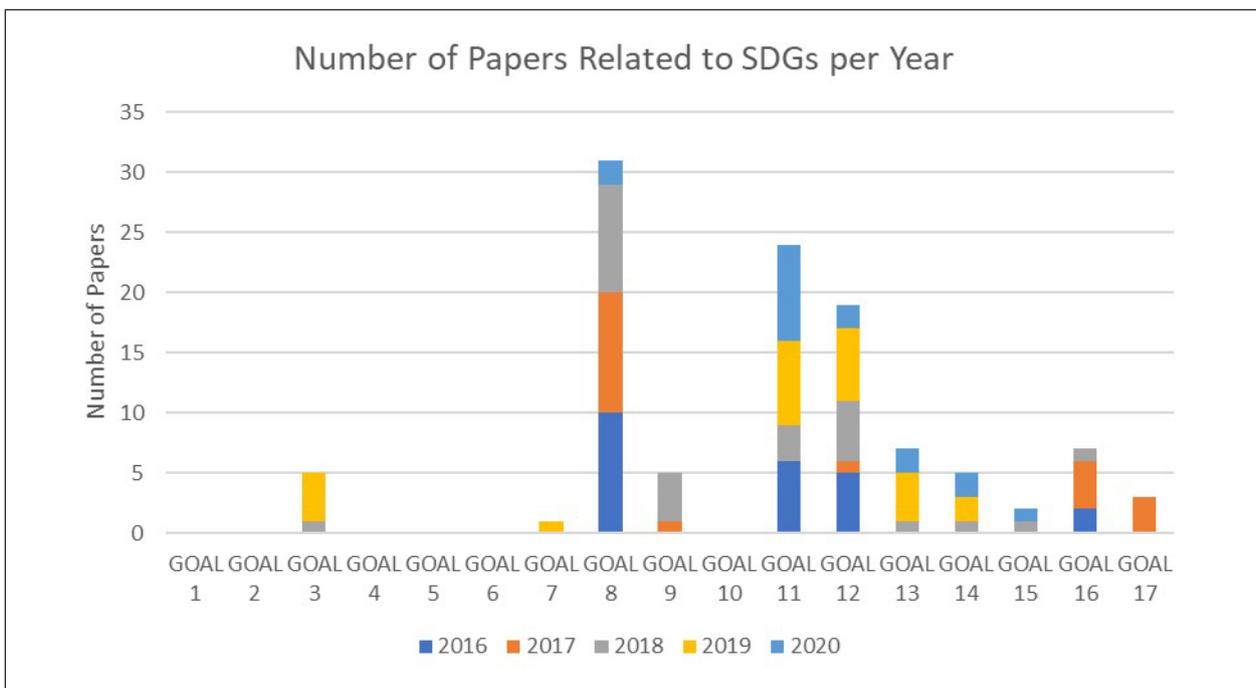


Figure 7: Publications related to SDGs per year

3.1.6. Publications by consumer behavior concepts

Based on the above findings, more than 50% of the articles reviewed are linked to GOAL 8 “Decent Work and Economic Growth,” GOAL 11 “Sustainable Cities and Communities,” and GOAL 12 “Responsible Consumption and Production.” Therefore, publications that are linked to these 3 SDGs are chosen to study further. The nine key concepts in contemporary tourism consumer behavior research, proposed by Cohen *et al.* (2014), were used as a framework to assess the interactions with a view to the SDGs, precisely GOAL 8, 11, and 12; and the results are presented in “Table 7.” Nineteen consumer behavior studies focusing on “Values” and “Satisfaction” have been published from 2016 to the present, followed by seventeen articles reviewing the concepts of “Expectations.” The least frequently reviewed topic is “Trust and Loyalty” (N = 6).

Table 7: Publications linked to SDGs 8, 11, and 12 per journal

Key concepts	<i>Annals of Tourism Research (ATR)</i>	<i>International Journal of Tourism Research (IJTR)</i>	<i>Journal of Travel Research (JTR)</i>	<i>Tourism Management (TM)</i>	Total Number of Articles
Decision-making	1	4	4	2	11
Values	1	2	4	12	19
Motivations	2	4	3	4	13
Self-concept and personality	0	3	3	2	8
Expectations	0	5	6	6	17
Attitudes	1	0	4	4	9
Perceptions	3	2	5	6	16
Satisfaction	2	5	5	7	19
Trust and loyalty	1	1	1	3	6

Figure 8 shows the key concepts of CB research linked to GOAL 8, 11, and 12 from 2016 to 2020. Overall, the number of key concepts researched has dropped in the last two years. “Values,” despite being one of the popular foci, the

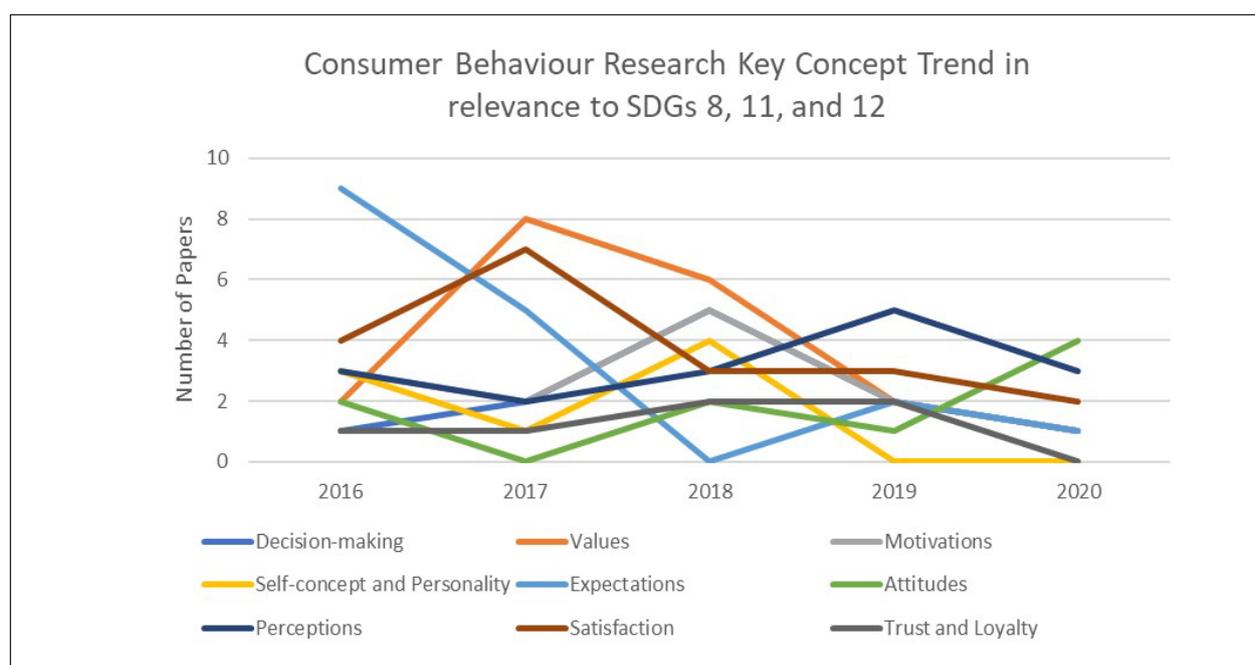


Figure 8: CB research key concept trend with relevance to SDGs 8, 11, and 12

amount of output concerning this topic has decreased significantly from eight articles in 2017 to one article in 2020. The same goes with articles related to “Expectations,” which has gone down from nine outputs in 2016 to only one output in 2020. Interestingly, the least focused topic, “Trust and Loyalty,” has shown a steady increase in interest from one article between 2016 and 2017 to 2 articles between 2018 and 2019. The number of studies concentrated in “Attitudes” published in 2020 increased to 4, double the amount from 2016 ($N = 2$). Notably, CB research related to “Self-Concept and Personality” has not been published since 2019 and has remained the same since.

4. Discussions and implications

This study presented a review of articles aimed at promoting tourists’ sustainable behavior. Although the topic of sustainability has been an area of interest in the tourism context for over a decade, and ‘visitor behavior and attitude’ are in the top five highly discussed subject areas (Lu and Nepal, 2009), several issues emerge from our findings.

4.1. Research intensity

Our analysis shows that, primarily, how the focus of research has not tended towards tourists’ sustainable behavior in the past two years. Although it might seem like it follows a clear negative trend in the overall number of publications, it did not necessarily indicate decreasing awareness and interest in the subject. This could be a result of swift from quantitative research to qualitative research, particularly using a longitudinal approach (Tracy, 2020). This echoes with the criticism from Cohen *et al.* (2014) that there are currently not enough longitudinal studies to understand tourist behavior. Researches have shown that longitudinal approaches are better detecting, examining, and monitoring patterns of change over time (Marušič *et al.*, 2017; Polyhart and Vandenberg, 2010; Wong *et al.*, 2017). Despite its challenges, including budget and time constraints, this approach can provide valuable information on the development of trends over time (Sæþórsdóttir and Hall, 2020). It is, therefore, relevant to show that the decrease in research intensity can be a result of changes in the study approach.

4.2. Western hegemony

Second, our analysis reveals that the majority of the researches are predominantly undertaken in the developed economies like the United States ($n = 38$, 29.9%) and the United Kingdom ($n = 20$, 15.7%). In part, this indicates several shortcomings in need of attention. For instance, most tourism is between the developed economies, and that tourism within the developing economies is still very minimal in extent. In addition, most tourism researchers are based in WEIRD countries (Henrich *et al.*, 2010). This can be seen by the fact that all of the journals we reviewed in this study were published in journals from the United Kingdom, which may obstruct authors from non-English speaking countries (Gaertner, 2020). As such, it is not surprising that sustainable tourist behavior research could be construed as Western hegemony (Adams, 2003; Cater, 2006). In fact, among the developing countries in Asia, Africa, and Latin America, most of them need to tread dangerously between environmental conservation and livelihood fulfillment (Rasoolimanesh *et al.*, 2020; Wall and Tao, 2008). It is, therefore, research in developing economies, especially those in Africa and South America, are still poorly represented.

4.3. Research methods

Third, our analysis corroborates previous research showing dominance in a quantitative research approach in the subject of sustainable tourism (Strandberg *et al.*, 2016), and according to Cohen *et al.* (2014), this approach is not effective in looking at causality effects of one’s behavioral response. Dwyer *et al.* (2012) included a comprehensive summary of various types of quantitative and qualitative methods, which are frequently used in tourism, in their edited book. For tourist behavior, it is always examined by statistical test techniques to confirmed the validity of hypotheses. However, some quantitative methods may have limitations in a specific context of tourist behavioral research. For example:

Econometric models: Cannot be used to analyze tourists’ behavior because the model is not based on any economic theory that underlies tourists’ decision-making processes.

Regression: Cannot take dynamic changes in tourists’ behavior into consideration.

Structural Equation mModelling (SEM): Have the potential to violate the multivariate normality assumptions when using in an experimental design with randomly assigned participants and directly manipulated independent variables.

Tourism demand analysis: Not reliable when the variables have a minimal variation over time or new conditions that have not been validated in the past.

As tourists' behavior is regarded as a continuous process that cannot always be analyzed separately, qualitative research is useful for a better understanding of tourist behavior (Tracy, 2020). For example, grounded theory can provide a holistic view and add more in-depth insight to studies using quantitative methodology when using mixed methods (June and Killion, 2012). McGehee *et al.* (2013) indicated that mixed-method studies are rarely put into practice in tourism, and in our study, the use of mixed methods in sustainable tourist behavior is somewhat insignificant (N = 4, 3.1%). However, the use of mixed methods in tourism has been proposed from the perspectives of pragmatism (Pansiri, 2006). It is, therefore, important to know that the mixture of quantitative and qualitative outcomes that speak to different audiences by creating trust and transparency that leads to behavioral change (Molina-Azorin and Font, 2016). And this can be advantageous to the validity of sustainable tourist behavior research by allowing researchers to interrogate themselves (Thomas, 2004). For instance, many of the articles that we reviewed studied the 'green gap' in attitude-behavior (Fennell and Cooper, 2020), yet those researches that are done quantitatively and qualitatively show mixed and contradictory results (Dolnicar *et al.*, 2008; Miller *et al.*, 2010). Hence, it is clear that the combination of quantitative and qualitative research can help triangulate the results (Walker and Moscardo, 2014) so as to understand sustainability behavior critically.

4.4. Research focus

4.4.1. GOAL 14

Fourth, the evidence collected through our analysis has uncovered an inadequacy of consolidated literature about the GOAL 14 "Life Below Water" (n = 5, 3.9%) – one of the SDGs identified by the UNWTO that has a significant impact on tourism. Thus, it is appropriate that researchers with a strong interest in the natural environment should study the relevance of this SDG and explore ways to sustainably use marine resources for sustainable development. Specifically, coastal areas, where so much tourism is concentrated, are pertinent given the increasing concerns about overcrowding in coastal destinations like Venice and Dubrovnik (Scheyvens, 2018).

4.4.2. GOAL 8 and GOAL 11

Furthermore, although most of the journals reviewed have presented a connection with GOAL 8 'Decent Work and Economic Growth,' the number of publications (n = 31, 24.4%) in relevance to this SDG is decreasing in the past two years. This particular SDG initially seeks to focus on the promotion of "sustained, inclusive and sustainable economic growth" (UN, 2020), which according to Higgin-Desbiolles (2018), can be detrimental to tourism. So the concept of degrowth has become a popular subject among scholars (Kallis *et al.*, 2018). This certainly helps explain the trajectory of the number of publications in relevance to GOAL 8 since 2018.

Hall (2019) criticized the SDGs and related goals as a failure to confront the norm in destination management as the success of the industry is deeply "rooted in the political and economic context of capitalistic resource extraction". In fact, the neoliberal discourse around the private sector, i.e., relying on the market mechanism in allocating resources, is still dominant and is suggested to be favorable for social inequalities (Scheyvens *et al.*, 2016). For example, research emphasized the importance of governance to counteract the economic forces in the sustainable development of developing regions. Bushell (2018) had a straightforward narrative of the lack of governance in Laos caused poor performance of a variety of SDGs, e.g. poverty, natural resources exploitation, health and well-being, even it has the World Heritage status and enjoys a strong economic return from the tourism industry. However, this example showed Southeast Asian countries, especially those developing economies, may have difficulties achieving the SDGs. Other regions in the world that using tourism as a mean to end poverty may also need better governance to avoid the imbalance effect of neoliberal discourse. Folarin and Adeniyi (2020) verified that tourism could end poverty in the Saharan-Africa regions, but the prerequisite is to have a set of comprehensive government policies that will help the tourism industry to flourish and benefit the local communities. The policies include investing in infrastructure to facilitate international travel, promoting domestic participation of local poor residing in tourism by education and tourism policy planning, and marketing the destination to attract international arrivals. In fact, Folarin and Adeniyi have only discussed the governance of balancing the economic benefits and social development, but not environmentally sustainable, which is described as the most critical role of governance (Rasoolimanesh *et al.*, 2020).

The above stance of neoliberal discourse is further proven by the actual performance reflected in the Sustainability Development Goals Report 2020. It is reported that the world as a whole was not on track to deliver its commitments to sustainable development by 2030 after four years of implementation (UN, 2020). For example, 22% of the world's young people were not in employment, education or training in 2019, a figure that has hardly changed since 2005 (UN, 2020). This result means Goal 8.6, which by 2020 substantially reduce the proportion of youth not in employment, education or

training, is unmet (UN, 2015). Moreover, the projected target of the ultimate goal, i.e., ending poverty by 2030, will be missed as the pace of global poverty reduction was decelerating before the Covid-19 pandemic (UN, 2020). Comparatively, the tourism industry has undergone tremendous growth in the past two decades. The total tourism expenditure increased from \$763 bn in 2005 to over \$1.7 tn in 2019 (The World Bank, 2020). As it is commented that the SDGs only focus on the economic contribution of tourism itself but not the distribution of income, it is questionable that by counting on the economic growth can hardly improve poverty (Goal 1) and job creation for youth (Goal 8) as promised by UNWTO (Hall, 2019; UNWTO, n.d.).

While GOAL 8 and its target focuses on economics, GOAL 11, “Sustainable Cities and Communities,” and its target focuses on social objectives (Leal Filho *et al.*, 2018). It can, therefore, be said that it fits into the approach of degrowth, which concentrates on change in the social system, for instance, the well-being of the communities (Hall and Gössling, 2013). Notions of this new approach include making transitions for improved livelihoods on a community-level (Cavaliere, 2017) and focusing on social sustainability (Robinson *et al.*, 2019). Thus, this can explain why the number of papers related to GOAL 11 ($n = 24$, 18.9%) has the most noticeable increase in the past three years.

4.4.3. Attitudes

Last, in our analysis of leading tourism journals for the period 2016-2020, we have identified the trend of the key concepts in CB concerning tourists’ sustainable behavior. Adopting the Cohen *et al.* (2014) framework, we mapped the nine key concepts of CB with the publications of tourists’ sustainable behavior connected with SDGs 8, 11, and 12. Our results indicate that though “Values,” “Satisfaction,” and “Expectations” are the most frequently reviewed topics, “Attitudes” is the only concept that has doubled its appearances ($n = 9$) since 2016. It is undoubtedly that tourists nowadays yearn for more information about the availability of environmental travel options (Goodwin and Francis, 2003; Miller, 2003); however, it does not directly translate their desire to react to it or change their behavior in support of SDGs (Grankvist, 2002; Yan and Barkmann, 2006). The differences between attitudes and behavior (Leggett *et al.*, 2003), and which, according to Fennell and Cooper (2020), is one of the major research areas in sustainable tourist behavior. Social desirability bias (Molina-Azorin and Font, 2016) can, therefore, provide the rationale behind the only increase in the number of outputs among all nine key concepts of CB.

4.4.4. Micro vs macro

The original objective of promoting sustainable tourism is reducing the negative impacts of mass tourism on the natural resources and socio-cultural aspects of the destinations (Mowforth and Munt, 2016). However, the sustainable solutions are commented to be a ‘micro solution’ to tackle a ‘macro problem’ which did not seem fit (Clarke, 1997; Sharpley, 2020). Jamal (2013) commented that the responsible tourism initiatives that emerged in the 1980s had a micro-level focus with an unclear focus on justice and ethics and required an integrated micro-macro approach to build a new sustainable tourism paradigm with fair and ethical practices in resource conservation. The 2030 Agenda and SDGs answered the call from Jamal as it focuses more on the macro-level issues, i.e., governance and poverty.

The trend of focusing on the macro-level issues by academia was also observed in Table 1 that sustainable tourism research related to the SDGs are following this trend. This trend may slow down the investigation on micro-level issues like tourist behavior, which usually remained on an individual level (Laing and Frost, 2017; Trinh and Ryan, 2017). The integrated micro-macro approach of sustainable tourism is suggested to be influential in understanding tourism behavior, which is supported by Wong *et al.* (2017). As consumption behavior in marketing theory is regarded on a micro level as it is connected to personal needs, wants, and satisfaction, both micro- (individual level, e.g. demographic) and macro-level (economic fluctuation) factors will influence the outbound tourist consumption behavior over time (Wong *et al.*, 2017; Kilborune *et al.*, 1997). As mentioned in the previous section, attitude may not be enough to understand tourists’ sustainable behavior. Future research may incorporate the micro-macro model to better understand the factors that shape tourists’ sustainable behavior from different levels.

5. Limitations and future research

Despite the contribution of the present analytical review to sustainable tourist behavior research, there are some limitations. The first limitation concerns the fact that it only includes the four tourism journals. To begin with, these journals were chosen because they are seen as top journals in the tourism field. Yet, it should be noted that some studies might have been printed in other respectable journals, especially those journals with a more specific focus on sustainability like the Journal of Sustainable Tourism and Sustainability. This may enable us to judge more accurately where our discipline stands in terms of sustainable tourist behavior. In addition, because the authors only focused on tourism

journals, articles in hospitality journals were neglected in this study. Though the hospitality and tourism industries intertwined in many ways, these two industries “are neither identical nor interchangeable” (Pizam, 2009). While tourism is an industry made up of good and services provided by hospitality firms, the fact that the very same hospitality businesses also offer good and services to non-tourists revealed the limitation of this current study regarding sustainable behaviors. As a result, further examination of tourists’ sustainable behavior research in hospitality publications should be conducted in the future.

Second, there were also other forms of publications available, albeit not included in this study, such as reference books, conference proceedings, and magazine publications. One could argue that the present review is not exhaustive but comprehensive. A broader range of review would undoubtedly enhance the validity of the current findings.

Third, another hindrance might be related to time. According to García *et al.* (2018), time is needed for a publication to make a difference within the field. Our findings reveal that the “longitudinal” approach and the concept of “Attitudes” in tourist’s sustainable behavior have been drawing attention by scholars since 2018. Therefore, the insufficiency of such studies is justifiable.

Last but not least, due to the interdisciplinary nature of tourism, some of the authors might have their research articles published in journals of other fields (Ashraf *et al.*, 2020; Budeanu, 2007). Given the increasing interest in social desirability bias, it would be intriguing to examine the status of the attitude-behavior gap in sustainable tourism several years from now. One could also broaden the scope of this paper by including other related fields such as psychology, sociology and general business journals and do a comparative study.

6. Conclusion

This study aims to give a critical review concerning tourists’ sustainable behavior. In doing so, 127 peer-reviewed articles were selected and analyzed based on their journals, publication output and frequency, geographic dispersion, authorship, and methodology. Moreover, the analytical review mapped the studies in relation to the SDGs and the key concepts of consumer behavior. Overall, the research reviewed tourism-focused papers that were published between 2016 and 2020. This paper answered the research question, “what is the recent contribution of academia in the area of tourists’ sustainable behavior to the development of SDGs?”.

Firstly, for the research method and geographies, it is observed that the studies with quantitative methods and in western developed countries, especially the US and UK, were concentrated in recent years. The reduction of publications in tourist’ sustainable behavior may cause by a shift to qualitative research and longitudinal studies, which has been suggested by the academics. Moreover, the focus of publications related to SDGs and tourism is shifting to macro-level issues, e.g. ending poverty, the locations of the tourists’ sustainable behavior studies may be redirected to the developing regions. Secondly, for the research focus, SDG 14 is still under-evaluated compared to the SDG 8 and SDG 11, which were the main focus with greater attention. It is encouraged that tourism researchers collaborate with experts in marine studies to uncover more knowledge on the impact of tourists’ sustainable behavior in relation to marine life. Thirdly, the recent focus of the nine key concepts is “Attitudes”, which has been described as an essential factor for tourist behavior. Although the concepts of tourist’ behavior are fragmented, it is shown that the growth rate of publication of this factor has been doubled in recent years. It is expected that the mediators and moderators of attitude will be further studied to close the attitude-behavior gap. The limitation of this article encouraged further reviews of this area in other journals in a cross-disciplinary approach.

Conflicts of Interest

No conflict exists in this review paper.

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