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The Importance of Sustainability in Diving Tourism—The Case of German Speaking Diving Tourists

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Abstract: Sustainability in sports tourism has increased in recent years. Sustainability is a particular focus for diving tourism. This paper analyses the meaning of sustainability to German speaking diving tourists to draw conclusions for the development of tourism strategies. Based on a literature review on the importance of sustainability in diving tourism, an empirical study was designed to understand the importance of the topic within the target group. A total of 174 German-speaking diving tourists were surveyed using an online-questionnaire. The subjects were clustered regarding their sustainable behavior. It could be shown that there is a correlation between age as well as gender and sustainable behavior. A conjoint measurement showed that for diving tourists, ecological aspects are more important than the prize of a diving trip. The gained insights can contribute to establish new and more sustainable offers in diving tourism and thus developing this area of sports tourism more sustainably overall.

Keywords: sports tourism; diving; sustainability; segmentation

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1. Introduction

In the wake of the Corona pandemic, fundamental changes will occur in tourism as in many other areas of our society [1]. In various domains, the pandemic acts as an accelerant on developments that already existed before. It can be stated that sustainability becomes an increasingly important factor in tourism and especially in sports tourism [2–4]. Tourism is one of the worldwide industries that will be most affected by the pandemic in 2020 and 2021. While 1.5 billion international tourist arrivals were counted globally in 2019, this figure was 72 percent lower in the period from January to October 2020 [5]. Consequently, it will be imperative to develop new ideas and strategies in tourism that will contribute to a rapid but also sustained recovery of the tourism industry. The authors hope this study will contribute to this recovery.

The paper focuses on the attitudes of dive tourists regarding sustainability. The aim is to find out if sustainable offers can be a meaningful part of diving tourism, and which aspects must be considered. To this end, the specific target group of German-speaking diving tourists was first analyzed using statistical methods (cluster analysis and conjoint measurement) from the field of marketing. The study wants to show the special importance of the topic sustainability in this form of active sports tourism, and thus contribute to the fact that, both in diving tourism and in other forms of active sports tourism, even more emphasis must be placed on this topic in the development of tourism strategies.

1.1. Sustainability in Tourism

Supposing that the revival of tourism, the changes of which were already underway within the industry before the pandemic, will continue at an increased pace, it can be

assumed that the topic of sustainability in tourism will be a significant factor. Sustainability has long played a significant role in both the field of tourism [2] and sports [3]. Streimikiene, Svagzdiene, Jasinskas, and Simanavicius [4] showed the increasing importance of sustainability in the tourism industry and the related challenges, especially in times of COVID-19 and possible further pandemics. In this context, the conflation of sustainability and tourism is not a new issue, but has been taking place on a scientific level for more than 20 years [6]. Several reviews [4,7] show the steady development of this topic. In addition to the scientific discussion of sustainability in tourism, the relevance of the topic is also reflected in publications about sustainability in tourism by the United Nations [8,9]. Moreover, 2017 was declared the "international year of sustainable tourism for development" [10]. From the very beginning, issues such as the sustainable development of destinations [11,12], or the question of competitive advantages through sustainability in tourism [13,14] have played a role in scientific research regarding this topic. Tourism undoubtedly has positive effects on the development of destinations, but always has negative effects. It is necessary to constantly balance the various stakeholder interests. [6,7,15]. However, it has not yet been finally clarified how sustainable tourism development can be reliably supported [16]. According to Streimikiene et al. [4], the following priorities can be identified in the sustainable development of tourism: job foundations, including employment creation and the destinations; preservation of natural conditions; and reduction in climate-damaging impacts through reduction in waste and climate-damaging emissions, as well as promotion of sustainable behaviors on vacation and beyond. In this regard, recent studies address issues such as waste reduction and conservation [17,18] or social aspects [19]. Summarizing the current debate, it can be stated that the topic of sustainability is clearly and increasingly gaining importance, but is by no means comprehensively implemented, neither on the part of the providers, nor on the part of the tourists themselves [4].

1.2. Sustainability in Sports Tourism

Sustainability is also playing an increasingly important role in sports tourism [3,20,21]. This article is not intended to define what is meant by sports tourism, therefore reference is made to the works of Gammon and Robinson [22], Gibson [23], Hinch and Higham [24], or Pigeassou [25] as representatives. In relation to the objective of the study, a narrow understanding of sports tourism is used here. Sports tourism is understood as the active practice of sports activities away from home. The sporting activity should be the main reason for the trip. This paper places emphasis on addressing the issue of sustainability in sports tourism. In addition to the general increase in the importance of the topic, two Special Issues were published in the Journal of Sport and Tourism in this field as early as 2009 [26] and 2016 [27]; it can be shown that sustainability is seen as important in the context of various specific issues in sports tourism. This includes mega sports events, [21,28] or specific sport tourism activities such as scuba diving, golfing, or surfing [29–31].

Some authors also approach the topic of sustainability in sports tourism in a more cross-cutting manner, with attention to the classic tripartite approach focusing on economic, environmental, and social impacts of sports tourism [20,32,33]. Looking specifically at active forms of sports tourism related to water, Carneiro, Breda, and Cordeiro [34] have written a comprehensive review on the matter of sports tourism development and sustainable destination development, which outlines five dimensions in this regard. These include the "economic, the environmental, the sociocultural, the technological and the policy dimension". There is no dispute about the enormous economic potential for sports tourism through a sustainable development of destinations by increasing tourist spending and numbers [35], as well as creating local jobs [36]. Hence, one of the recommendations is to purchase products and services from local suppliers by means of the tourism industry. Related to the environmental component of sustainability, specifically in water sports tourism, the recommendations are to avoid water pollution, waste, and noise [21,37,38] while developing strategies for recycling [20,39]. From a sociocultural perspective, sports tourism also plays a significant role, for example in developing the images of destina-

tions [33]. The connection between technology and sustainability in (sports) tourism can be closely linked to the use of renewable energies. In this area, reference is made to the work of Yaw [40] and Ruiz-Molina, Gil-Saura, and Moliner-Velázquez [41] as examples. Regarding the dimension of policy, reference is made to the importance of internationally recognized rules for tourism [42], especially the interaction of different stakeholders in destinations as a network [43–45]. While many studies on sustainability in sports tourism place a focus on economic aspects only, there was already a call to further include ecological (and social) aspects of sports in the discussion ten years ago [46]. This resulted in works with specific, individual questions on the topic [20,47,48].

1.3. Sustainability in Diving Tourism

This article focuses on one form of active sports tourism: diving tourism. Diving tourism is an established and traditional form of sports tourism, which must be seen in special relation to the issue of environmental sustainability. A total of 13 out of 17 journal articles on sustainable diving tourism identified in the last ten years (Table 1) dealt with the topic of ecological sustainability [29,49–64].

Table 1. Results of the literature review on sustainable diving tourism.

Year	Authors	Environmental Sustainability
2011	Ince, T., and Bowen, D.	No
2011	Anderson, L., and Loomis D,	Yes
2012	Du Preez, M., Dicken, M., and Hosking, S. G.	Yes
2013	Orams, M.	No
2013	Daldeniz, B., and Hampton, M. P.	Yes
2013	Lucrezi, S., Saayman, M., and Van Der Merwe, P	Yes
2014	Queiroz, R. E., Guerreiro, J., and Ventura, M. A.	Yes
2014	Drakakis, P., and Papadaskalopoulos, A.	Yes
2015	Gill, D. A., Schuhmann, P. W., and Oxenford, H. A.	Yes
2016	Grafeld, S., Oleson, K., Barnes, M., Peng, M., Chan, C., and Weijerman, M.	Yes
2016	Byrnes, T., Buckley, R., Howes, M., and Arthur, J. M.	Yes
2016	Merchant, S.	No
2017	Hayes, C. T., Baumbach, D. S., Juma, D., and Dunbar, S. G.	Yes
2017	Lucrezi, S., & Saayman, M.	Yes
2017	Needham, M. D., Szuster, B. W., Mora, C., Lesar, L., and Anders, E.	Yes
2018	Giglio, V. J., Luiz, O. J., Chadwick, N. E., and Ferreira, C. E.	Yes
2020	Jonas, A. G., Radder, L., and van Eyk, M	No

All English-language scientific articles on sustainable diving tourism (search terms: ("sustainable" OR "sustainability") AND ("scuba diving" OR "diving") AND "tourism") from 2011 to 2021 were included in the literature analysis).

Diving tourism can bring economic success to a destination, but there is also a risk that reefs will be polluted and destroyed by tourists [65], and thus harm diving tourism in the medium term. In contrast to other forms of tourism, measures were taken at an early stage to preserve the nature of the sea. To this end, protected areas have been established in various dive tourism destinations [66–69]. Van't Hof [70] and Barker [71] noted very early that it is protected dive sites which attract tourists. Despite this, many reefs and dive destinations have been destroyed [72]. This research explores whether dive tourism demanders are particularly interested in environmental sustainability. Following the "specialization theory" adapted from Ditton, Loomis, and Choi [73] to the field of recreation, it should be assumed that diving tourists, with high involvement in diving, therefore have higher interest in the topic than other tourists. Anderson and Loomis [29] have already shown that highly specialized scuba divers, for example, are more willing to follow rules for the protection of coral reefs than less specialized divers.

In addition, the question arises whether a possible sustainable attitude towards the topic of diving tourism goes hand in hand with a fundamental sustainable attitude towards life. Furthermore, whether diving tourists are willing to pay a higher price for sustainable diving offers than for non-sustainable diving offers will be investigated. More recently, based on Trail's [74] "sports fan sustainability behavior" model, Greenhalgh and Drayer [75] demonstrated that fans of sports teams are willing to pay a fee for their team's environmental sustainability initiatives. If this were to apply to dive tourists as well, the question about which characteristics influence such behavior arises again. Studies by Rudd and Tupper [76], Parsons and Thur [77], and Gill et al. [56] attempted to assess the willingness of divers to support marine conservation. Grafeld, Oleson, Barnes, Peng, Chan, and Weijerman [57] specifically calculated divers' willingness to pay (WTB) for improved conditions in reefs. Studies show that higher levels of education are associated with increased knowledge of the environment and its problems, leading to a greater willingness to pay. For example, in Tonin's [78] study, persons who know what biodiversity means were found to have higher WTB compared to other respondents.

Overall, sustainability in sports tourism, especially in diving tourism, has increased in recent years. Nevertheless, it is not known from the current studies to what extent the behaviour of diving tourists in everyday life differs from that on holiday, or whether diving tourists would pay a higher price for a more sustainable diving holiday. Consequently, the paper will analyse the following questions:

a. To what extent do people who maintain a sustainable lifestyle in everyday life also behave sustainably on vacation, or specifically when diving?
b. Are there significant differences in behavior regarding age, gender, and educational level of the vacationers, as well as the frequency of diving vacations?
c. Are diving tourists willing to pay a higher price for a sustainable diving offer, and does the price play a greater role than other aspects in concrete diving offers?

2. Materials and Methods

In the period March 2020–May 2020, 174 diving tourists were surveyed about their sustainable behavior in everyday life and during (diving) vacations via online questionnaire.

2.1. Subjects

A total of 174 German-speaking dive tourists (94 male, 76 female, 3 diverse, 1 no information) participated in the survey. The distribution of the age range in the survey is as follows: Under 18 0%; 18–29 9.8%; 30–39 28.2%; 40–49 25.9%; 50–59 26.4%; 60–69 8.6%; and over 70 0.6%. One participant did not provide age information. The majority of participants are from Germany (82.8%), while 10.3% of the respondents came from Switzerland and 4.0% from Austria; 3 of those surveyed came from other countries, and 2 did not give an answer.

2.2. Survey

Data were collected using a standardized online questionnaire. The questionnaire is based on the tourism literature [79–82] and was pretested. The survey contains seven sets of questions: (A) travel behavior (frequency of (diving) vacation); (B) sustainability rating; (C) sustainability in general; (D) sustainability on vacation; (E) sustainability on diving vacation; (F) conjoint analysis; and (G) personal information (gender, age (in decades); educational status; origin; diving experience). For categories B-E, closed-ended questions with a 5-point Likert scale were used (1 = strongly disagree; 5 = strongly agree).

The online survey was created using LimeSurvey software and distributed via newsletters from dive schools such as SUBEX and social media (e.g., Facebook) in German-speaking countries. Data collection took place between March 2020 and May 2020.

2.3. Statistical Analysis

IBM SPSS Statistic 27 was used to analyze the collected data. In addition to descriptive statistics, a cluster analysis was performed first. The cluster analysis was performed related to sustainability aspects in the everyday life of the respondents. Based on the cluster analysis, differences between the clusters regarding sustainability in the setting of vacation in general, and diving vacations, were tested using mean comparison. Cluster analysis refers to procedures for discovering similarity structures in data sets. The groups of "similar" objects found in this way are called clusters. Here, the cluster analysis was carried out in relation to the attitudes of divers to the topic of sustainability in everyday life. Cluster analyses are often used in marketing to identify market segments and then describe them in terms of further sociodemographic data. In this case, the influence of various factors on cluster membership was statistically tested. Finally, a conjoint analysis was conducted. Conjoint analysis (also conjoint measurement) is a multivariate method developed in psychology. Conjoint analysis is any decompositional procedure which estimates the structure of consumers' preferences by drawing on their overall judgments about a set of alternatives (stimuli) specified by expressions of various properties (also called characteristics). In practice, a stimulus is usually a product that is composed of (product) attributes, each with a specific characteristic. The conjoint measurement was used to calculate the importance of the factors price, (environmental) sustainability, as well as additional services (transportation) in the selection of diving packages on vacation for the respondents. Thereby, the respondents were presented with a total of eight packages with the characteristics price (25€ and 35€ per dive), ecological certificate of the diving school (available/not available) and additional offer (transport to the diving area included/exclusive). These had to be sorted by the subjects into their preferred order. From the sorting, the utility values and the importance of the individual factors were calculated using conjoint procedures (including generation of orthogonal design in SPSS).

3. Results

3.1. Cluster Analysis

Based on the respondents' assessments of a sustainable lifestyle in everyday life, the sample could be divided into two clusters using a K-Means cluster analysis (Table 2). When clustering, solutions with different cluster numbers were compared. With reference to recommendations for dealing with cluster analysis [83], the two-cluster solution proved to be the most useful, as here, all of clusters were sufficiently large, the clusters differed significantly regarding the characteristic values of all items, and the cluster number was not too large. A two-cluster solution had already been utilized as the most useful strategy in other sports tourism analyses [84]. The two clusters (highly sustainable and diverse divers) differ significantly regarding all items. For all items, the mean value in cluster one (highly sustainable divers) is higher than in the cluster two (diverse divers). Highly sustainable divers comprise almost three times as many people as cluster number two.

Waste separation at home is generally agreed with the highest score. In a next step, the division of the sample into the two clusters was used to check whether the behavior of German-speaking diving tourists can also be transferred to general vacation planning (Table 3).

Here, too, there are highly significant differences between the two clusters about all items, and the highly sustainable divers agree, on average, more with the statements made in all items than the diverse divers do. Overall, however, the mean values for vacation are lower than for everyday life. The topic of garbage is again met with agreement. Likewise, high mean values are found for the selection of regional restaurants and dishes, as well as for dealing with the local culture. German-speaking diving tourists, however, attach little importance to destinations that are as close as possible for diving. As a supplement, it was also examined whether the distinction shown between highly sustainable divers and less sustainable divers could also be found during the diving vacations themselves (Table 4).

Table 2. Two-cluster solution related to sustainable behavior in everyday life (Likert scales with (1) strongly disagree to (5) strongly agree).

Item	Cluster One (*n* = 126): High Sustainable Divers	Cluster Two (*n* = 48): Diverse Divers	Significance
In everyday life I walk, use the bicycle and/or public transport	3.29	2.65	<0.001
At home I separate the rubbish	4.73	3.77	<0.001
At home I only buy regional fruit and vegetables	3.53	2.33	<0.001
I try to avoid plastic waste in everyday life	4.10	2.46	<0.001
When I buy electrical appliances or light bulbs, I make sure that they are particularly energy-efficient	4.35	3.06	<0.001
When buying consumer goods (clothes, cleaning products), I make sure that they are labelled as environmentally friendly	3.45	1.83	<0.001
When I buy food, I make sure that it is sustainably produced	3.70	2.60	<0.001

Table 3. Differences between the clusters related to sustainable behavior on vacation (Likert scales with (1) agree not at all to (5) agree completely).

Item	Cluster One (*n* = 126): High Sustainable Divers	Cluster Two (*n* = 48): Diverse Divers	Significance
I always choose destinations that are as close to home as possible	2.13	1.56	0.001
I make sure to choose a sustainable accommodation (with environmental certificate)	2.59	1.52	<0.001
I deliberately refrain from using air conditioning in the accommodation	3.21	2.00	<0.001
At the hotel I don't have my towels cleaned every day	4.82	4.15	<0.001
On holiday I walk, cycle and/or use public transport	3.89	3.10	<0.001
On holiday I prefer regional food/restaurants	4.63	4.06	<0.001
On holiday, I try to avoid waste (e.g., use glass bottles, avoid plastic)	4.33	3.29	<0.001
When booking my holiday, I look for eco-labels	2.52	1.40	<0.001
Before I go on holiday, I get to know the culture of the locals	4.23	3.71	0.002

As in everyday life and on vacation, the two clusters differ significantly regarding all items in the diving vacation, and once again all of the mean values of the highly sustainable divers are higher than those of the diverse divers. Overall, the mean values for this set of questions are the highest. The relatively low level of agreement regarding the reduction in one's own diving tourism if it would have a positive effect on the environment appears conspicuous. Rather, the German-speaking diving tourists would prefer to become more active themselves (e.g., collecting trash) to influence effects of their own behavior.

Whether a diving vacationer is assigned to clusters one or two is not related to the frequency of their own diving vacations (Table 5). Correlations between other socio-demographic aspects and cluster membership were determined by cross-tabulation (Table 6). There is a significant correlation between the gender of the diving vacationers and the cluster membership. However, this is to be evaluated as rather weak. More male divers can be observed in the diverse group than was to be expected. The situation is quite different for women. There is also a correlation between age and cluster membership. The respondents were divided into seven age groups (under 18 years; 18–29 years; 30–39 years; 40–49 years; 50–59 years; 60–69 years; and over 70 years). The correlation shows a medium strength. The high observed number of diverse divers in younger age groups is significant.

In the older age groups, however, more highly sustainable divers can be observed than was to be expected. Regarding educational attainment, there is no significant correlation between degree and cluster membership.

Table 4. Differences between the clusters related to sustainable behavior during diving vacations (Likert scales with (1) strongly disagree to (5) strongly agree).

Item	Cluster One (*n* = 126): High Sustainable Divers	Cluster Two (*n* = 48): Diverse Divers	Significance
I prefer diving schools/bases that are involved in local environmental protection projects and contribute to research and protection of the seas	4.03	2.60	<0.001
I avoid dive schools/bases that spend hours searching for dolphins or whale sharks by racing across the water in their speedboats	4.71	4.04	<0.001
I think it is good if the dive base regulates the number of dives to protect the reefs	4.28	3.65	0.001
I think it's good when dive bases encourage divers to collect old fishing nets or plastic rubbish on their trips	4.87	4.48	<0.001
I am willing to spend more money for a sustainable dive base	4.16	3.10	<0.001
It is important to me that a diving school/base also qualifies and employs local diving instructors to support the local economy	4.57	3.71	<0.001
If it is good for the environment, I would reduce my diving tourism	2.97	2.06	<0.001
I collect rubbish myself when diving in the water	4.72	4.06	<0.001
I would like to help replant and reconstruct coral reefs during my diving holiday	4.45	3.56	<0.001
A consistent policy to protect the environment will have a positive impact on competitiveness in (diving) tourism in the future	4.10	3.35	<0.001

Table 5. Correlation between cluster affiliation and frequency of diving vacations.

	Cluster One (*n* = 126): High Sustainable Divers	Cluster Two (*n* = 48): Diverse Divers	Significance
How often have you been on a diving holiday in the last 5 years?	8.60	7.08	0.378

Table 6. Relationship between cluster membership and sociodemographic variables.

Correlation between Cluster and . . .	Pearson-Chi-Square	Sign.	Cramers-V	Sign.
Gender	6.573	0.01	0.194	0.01
Age	12.811	0.046	0.271	0.046
Educational level	0.918	0.969	0.073	0.969

3.2. Conjoint Measurement

In a second step, a conjoint analysis was used to examine the importance of individual aspects of a diving offer indirectly through their inclusion in specific offers during the diving vacation. Each subject had the task of ranking eight different alternative offers (stimuli). The stimuli differed with respect to the variables price, presence of an ecological certificate and the possibility of transport to the dive. Each stimulus thus had exactly three characteristics. Based on these properties, the respondents ranked them in order

of preference. With the help of statistical methods, it was possible to calculate the utility values as well as the relative importance of the individual variables. Tables 7 and 8 show the results of this procedure for the entire sample as well as for the two clusters identified above.

Table 7. Utility values of individual variables within the conjoint analysis.

Variables		All (n = 174)	Cluster One (n = 126): High Sustainable Divers	Cluster Two (n = 48): Diverse Divers
Price	25€	+0.595	+0.560	+0.682
	35€	−0.595	−0.560	−0.682
Ecological Certificate	No	−1.292	−1.288	−1.339
	Yes	+1.292	+1.288	+1.339
Transportation	Not included	−0.428	−0.435	−0.391
	Included	+0.428	+0.435	+0.391

Table 8. Importance of individual variables in the conjoint analysis.

Importance Values	All (n = 174)	Cluster One (n = 126): High Sustainable Divers	Cluster Two (n = 48): Low Sustainable Divers
Price	25.698	24.522	28.294
Ecolog. Certificate	55.804	56.435	55.508
Transportation	18.498	19.043	16.199
Correlation	Pearson-r: 0.877 ** Kendell-Tau: 0.714 **	Pearson-r: 0.882 ** Kendell-Tau: 0.786 **	Pearson-r: 0.871 ** Kendell-Tau: 0.714 **

** $p < 0.01$.

On either side, in terms of the individual utility values and the importance of the individual factors, the ecological certificate achieves the highest values. This applies to all respondents, both cluster one and cluster two. Compared to the highly sustainable divers, the price has a significantly higher importance for low sustainable divers. The opposite is true for the additional service of transport.

4. Discussion

The generally high approval ratings for the topic of sustainability in everyday life, on vacation, and especially on diving vacations show that this topic is also highly relevant to the surveyed subjects. The fact that almost three times as many tourists can be assigned to the cluster of highly sustainable divers than to those of diversely sustainable divers also supports this thesis. In this respect, diving tourists are not to be evaluated differently than other sports tourists [26,27], or tourists in general [4,6,7]. However, it is notable that, overall, diving tourists are more sustainable in their daily lives and diving than on vacation in general. Similar to other studies, ecologically associated aspects such as avoiding waste and conservation whilst on vacation play a particularly important role [17,18]. The assumptions derived from the specialization theory [73] can certainly be applied to the sample observed here, as in principle, diving tourists who have all already spent a diving vacation several times can be assumed to be a highly specialized target group with an overall positive attitude towards the topic of sustainability in diving vacations, regardless of the number of diving vacation experiences already made. In this respect, the study confirms the results of previous research in this field [29].

What is new, however, is the finding that the group of diving tourists can be divided into highly sustainable divers and diversely sustainable divers regarding their attitudes on the topic of sustainability. The cluster of highly sustainable divers shows higher agreement with the topic of sustainability than the second cluster about all items. In addition, the

attitudes towards sustainability in everyday life can be clearly transferred to the areas of vacation and diving vacation in particular. There are significant correlations between cluster membership, and thus between sustainability and gender and age, which has been shown in other studies [78,85,86]. Older diving tourists and women have a more sustainable attitude than young and male diving tourists. Regarding the level of education, there is no correlation between the level of education and sustainable behavior in the examined sample, contrary to other studies, which show that a higher level of education is associated with a higher willingness to pay [78,87]. Often, a relationship between educational attainment and income is suspected as the cause in this case. Looking to diving tourists, it can be assumed that they should all have a certain income to be able to undertake diving trips at all. Therefore, resulting differences could be set into perspective. In contrast, older diving tourists should have a higher income than younger ones, which could explain the observed correlation between age and cluster membership.

Regardless of cluster affiliation, the diving tourists show high agreement with topics such as waste avoidance, consideration for reefs and animals, and their own activities for cleaning reefs. Thus, they would sustainably change their own diving behavior, but are hardly willing to forego their own dives. This item has by far the lowest agreement. The previously observed willingness to adapt one's own behavior to protect natural diving areas [56,76,77] is also present here. However, this seems to be linked to the condition that one's dive tourism experience remains possible in the future. As already shown by Grafeld et al. [57], the surveyed dive tourists are also quite willing to pay higher prices for a sustainable dive vacation. The conjoint analysis clearly shows that the respondents attach more importance to a sustainable diving offer with ecological certification than to a low price per diving hour. Additional offers, such as included transportation from the hotel to the dive site, are given the least importance. In this respect, diving tourists differ from other active sports tourists for whom additional offers are often of great importance [88]. However, in other conjoint measurement studies in sport, price is normally the most important, or a very important, factor [89]. It is notable, therefore, that the observations of the conjoint analysis apply independently of the cluster affiliation, and thus of the attitude towards sustainability. This again speaks of the consistently high specificity of a group of diving tourists [29].

5. Conclusions

Overall, it can be shown that the topic of sustainability plays an increasingly important role among diving tourists. The growing importance of the topic also leads to changed attitudes and behavior of diving tourists. Of course, the findings of the study must be interpreted with certain limitations. For example, only German-speaking dive tourists were surveyed. Furthermore, while the fairly small sample (n = 174) is sufficient for the procedures used, it should be significantly increased to generalize the findings obtained. Transfer of the findings to the behavior of diving tourists outside Germany, Austria, or Switzerland is difficult to conduct. Changes in tourist behavior due to the Corona pandemic are excluded from this study due to the selected period of the investigation. In addition, aspects of the journey to the diving vacation, which have a direct relation to the sustainability of the vacation, especially for dives in distant destinations, were not considered. The article also focused solely on the attitudes of diving tourists themselves, and not on the actual impacts of diving on the marine ecosystem. However, this would certainly have to be included in further studies. Despite these limitations, the study provides findings that are interesting both from a scientific perspective and for the tourism industry. On the one hand, the connection between sustainability in everyday life and in (diving) tourism leads to the clear realization that tourist offers with increasing importance of this topic in general should be planned and implemented sustainably, as there is a demand for sustainable vacations. At least for the Central European market, a clear target group (female in middle age) can be described, which is willing to pay higher prices for sustainable diving tourism offers. Thus, sustainable diving tourists can be described as an extremely attractive target group. At the

moment, mainly ecological aspects of sustainability still play a role. An expansion of the understanding of sustainability to other areas seems to make sense. The existing potential regarding the topic of sustainability should definitely be used in order to develop further sustainable diving offers in the future, and therefore contribute to a comprehensively sustainable diving tourism. From a scientific perspective, it can be stated that, with the help of the statistical procedures from marketing, a contribution to the urgently needed understanding of the behavior of active sports tourists has succeeded. To continue this investigation, however, further studies on the topic are needed to confirm these findings, and to extend them to diving tourists from other countries so as to make comparisons. An international perspective on diving tourism as a globally offered form of active sports tourism is recommended as a next step. In this regard, the authors have already started translating the survey instrument into several languages. Furthermore, transferring the approach to other active sports tourists (e.g., skiing, biking, or hiking) would be useful to understand if sports tourists in general are interested in sustainability, or if there are differences between individual sports. Based on the findings, the topic of sustainability should also be increasingly incorporated into sports tourism offers beyond diving tourism. Certificates for providers who commit themselves to comply with ecological and social standards would be beneficial, as these, combined with the customers' willingness to pay, promise an improved market position. The avoidance of waste is not limited to seas, but could be transferred to other natural areas such as forests, mountains, lakes, and deserts for other forms of sports tourism. The same applies to the qualification of local people for the implementation of sports tourism offers.

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References

1. Die Auswirkungen von COVID-19 auf den Tourismussektor. Sektor-Kurzdossier [The Impact of COVID-19 on the Tourism Sector. Sector Policy Brief]. Available online: https://www.ilo.org/wcmsp5/groups/public/---ed_dialogue/---sector/documents/briefingnote/wcms_748291.pdf (accessed on 21 April 2021).
2. McCool, S. Sustainable tourism: Guiding fiction, social trap or path to resilience? In *Challenges in Tourism Research*; Singh, T., Ed.; Channel View: Bristol, UK, 2015; pp. 224–234. ISBN 9781-8454-1532-7.
3. Taks, M. Social sustainability of non-mega sport events in a global world. *Eur. J. Sport Soc.* **2013**, *10*, 121–141. [CrossRef]
4. Streimikiene, D.; Svagzdiene, B.; Jasinskas, E.; Simanavicius, A. Sustainable tourism development and competitiveness: The systematic literature review. *Sustain. Dev.* **2021**, *29*, 259–271. [CrossRef]
5. Impact Assessment of the COVID-19 Outbreak on International Tourism. Available online: https://www.unwto.org/impact-assessment-of-the-covid-19-outbreak-on-international-tourism (accessed on 16 April 2021).
6. Butler, R.W. Sustainable tourism: A state of the art review. *Tour. Geogr.* **1999**, *1*, 7–25. [CrossRef]
7. Lu, J.; Nepal, S. Sustainable tourism research: An analysis of papers published in the Journal of Sustainable Tourism. *J. Sustain. Tour.* **2009**, *17*, 5–16. [CrossRef]
8. UNEP. *Sustainable Tourism Development in UNESCO*; UNEP: Vienna, Austria, 2004.
9. UNWTO. *Sustainable Tourism for Development Guidebook*; UNWTO: Madrid, Spain, 2013.
10. UNWTO. 2017 is the International Year of Sustainable Tourism for Development. Available online: http://www.unwto.org/archive/global/press-release/2017-01-03/2017-international-year-sustainable-tourism-development (accessed on 16 April 2021).

11. Pesonen, J.; Komppula, R. Rural wellbeing tourism: Motivations and expectations. *J. Hosp. Tour. Manag.* **2010**, *17*, 150–157. [CrossRef]
12. Woo, E.; Kim, H.; Uysal, M. Life satisfaction and support for tourism development. *Ann. Tour. Res.* **2015**, *50*, 84–97. [CrossRef]
13. Crouch, G.I.; Ritchie, J.B. Tourism, competitiveness, and societal prosperity. *J. Bus. Res.* **1999**, *44*, 137–152. [CrossRef]
14. Hassan, S.S. Determinants of market competitiveness in an environmentally sustainable tourism industry. *J. Travel Res.* **2000**, *38*, 239–245. [CrossRef]
15. Waligo, V.M.; Clarke, J.; Hawkins, R. Implementing sustainable tourism: A multi-stakeholder involvement management framework. *Tour. Manag.* **2013**, *36*, 342–353. [CrossRef]
16. Agyeiwaah, E.; McKercher, B.; Suntikul, W. Identifying core indicators of sustainable tourism: A path forward? *Tour. Manag. Perspect.* **2017**, *24*, 26–33. [CrossRef]
17. Luekveerawattana, R. Key factors affecting of tourists' decisions to stay at environmental friendly hotels. *Polish J. Manag. Stud.* **2018**, *17*, 148–157. [CrossRef]
18. Murava, I.; Korobeinykova, Y. The analysis of the waste problem in tourist destinations on the example of Carpathian region in Ukraine. *J. Ecol. Eng.* **2016**, *17*, 43–51. [CrossRef]
19. Kakoudakis, K.I.; McCabe, S.; Story, V. Social tourism and self-efficacy: Exploring links between tourism participation, job-seeking and unemployment. *Ann. Tour. Res.* **2017**, *65*, 108–121. [CrossRef]
20. Gibson, H.J.; Kaplanidou, K.; Kang, S.J. Small-scale event sport tourism: A case study in sustainable tourism. *Sport Manag. Rev.* **2012**, *15*, 160–170. [CrossRef]
21. Ma, S.-C.; Egan, D.; Rotherham, I.; Ma, S.-M. A framework for monitoring during the planning stage for a sports mega-event. *J. Sustain. Tour.* **2011**, *19*, 79–96. [CrossRef]
22. Gammon, S.; Robinson, T. Sport and tourism: A conceptual framework. *J. Sport Tour.* **1997**, *4*, 11–18. [CrossRef]
23. Gibson, H.J. Sport tourism: A critical analysis of research. *Sport Manag. Rev.* **1998**, *1*, 45–76. [CrossRef]
24. Hinch, T.D.; Higham, J.E. Sport tourism: A framework for research. *Int. J. Tour. Res.* **2001**, *3*, 45–58. [CrossRef]
25. Pigeassou, C. Contribution to the definition of sport tourism. *J. Sport Tour.* **2004**, *9*, 287–289. [CrossRef]
26. Fyall, A.; Jago, L. Sustainability in sport & tourism. *J. Sport Tour.* **2009**, *14*, 77–81. [CrossRef]
27. Hinch, T.D.; Higham, J.E.S.; Moyle, B.D. Sport tourism and sustainable destinations. Foundations and pathways. *J. Sport Tour.* **2016**, *20*, 163–173. [CrossRef]
28. Ziakas, V.; Boukas, N. A neglected legacy. *Int. J. Event Festiv. Manag.* **2012**, *3*, 292–316. [CrossRef]
29. Anderson, L.; Loomis, D. SCUBA Diver Specialization and Behavior Norms at Coral Reefs. *Coast Manag.* **2011**, *39*, 478–491. [CrossRef]
30. Markwick, M.C. Golf tourism development, stakeholders, differing discourses and alternative agendas: The case of Malta. *Tour. Manag.* **2000**, *21*, 515–524. [CrossRef]
31. Ponting, J.; O'Brien, D. Liberalizing nirvana: An analysis of the consequences of common pool resource deregulation for the sustainability of Fiji's surf tourism industry. *J. Sustain. Tour.* **2014**, *22*, 384–402. [CrossRef]
32. Andersson, T.D.; Lundberg, E. Commensurability and sustainability: Triple impact assessments of a tourism event. *Tour. Manag.* **2013**, *37*, 99–109. [CrossRef]
33. Andersson, T.D.; Armbrecht, J.; Lundberg, E. Triple impact assessments of the 2013 European athletics indoor championship in Gothenburg. *Scand. J. Hosp. Tour.* **2015**, *16*, 158–179. [CrossRef]
34. Carneiro, M.J.; Breda, Z.; Cordeiro, C. Sports tourism development and destination sustainability: The case of coastal area of the Aveiro region, Portugal. *J. Sport Tour.* **2016**, *20*, 305–334. [CrossRef]
35. Roberts, S.; Tribe, J. Sustainability indicators for small tourism enterprises: An exploratory perspective. *J. Sustain. Tour.* **2008**, *16*, 575–594. [CrossRef]
36. Marzo-Navarro, M.; Pedraja-Iglesias, M.; Vinzón, L. Sustainability indicators of rural tourism from the perspective of the residents. *Tour. Geogr.* **2015**, *17*, 586–602. [CrossRef]
37. Orams, M. Introduction to sport tourism impacts and environments. In *Sport Tourism Destinations: Issues, Opportunities and Analysis*; Higham, J., Ed.; Elsevier Butterworth-Heinemann: Oxford, UK, 2005; pp. 248–259. ISBN 9780-7506-5937-6.
38. Fredline, E. Host and guest relations and sport tourism. *Sport Soc.* **2005**, *8*, 263–279. [CrossRef]
39. Vellecco, I.; Mancino, A. Sustainability and tourism development in three Italian destinations: Stakeholders' opinions and behaviours. *Serv. Ind. J.* **2010**, *30*, 2201–2223. [CrossRef]
40. Yaw, F., Jr. Cleaner technologies for sustainable tourism: Caribbean case studies. *J. Clean. Prod.* **2005**, *13*, 117–134. [CrossRef]
41. Ruiz-Molina, M.-E.; Gil-Saura, I.; Moliner-Velázquez, B. Good environmental practices for hospitality and tourism. *Manag. Environ. Qual.* **2010**, *21*, 464–476. [CrossRef]
42. Pérez, A.; Del Bosque, I.R. Sustainable development and stakeholders: A renew proposal for the implementation and measurement of sustainability in hospitality companies. *Knowl. Process. Manag.* **2014**, *21*, 198–205. [CrossRef]
43. Halme, M. Learning for sustainable development in tourism networks. *Bus. Strategy Environ.* **2001**, *10*, 100–114. [CrossRef]
44. Jamal, T.; Stronza, A. Collaboration theory and tourism practice in protected areas: Stakeholders, structuring and sustainability. *J. Sustain. Tour.* **2009**, *17*, 169–189. [CrossRef]
45. Bagur-Femenías, L.; Martí, J.; Rocafort, A. Impact of sustainable management policies on tourism companies' performance: The case of the metropolitan region of Madrid. *Curr. Issues Tour.* **2015**, *18*, 376–390. [CrossRef]

46. Mallen, C.; Chard, C. A framework for debating the future of environmental sustainability in the sport academy. *Sport Manag. Rev.* **2011**, *14*, 424–433. [CrossRef]
47. Taks, M.; Chalip, L.; Green, B.C. Impacts and strategic outcomes from non-mega sport events for local communities. *Eur. Sport Manag. Q.* **2015**, *15*, 1–6. [CrossRef]
48. Du Preez, E.A.; Heath, E.T. Determining the influence of the social versus physical context on environmentally responsible behaviour among cycling spectators. *J. Sport Tour.* **2016**, *20*, 123–143. [CrossRef]
49. Ince, T.; Bowen, D. Consumer satisfaction and services: Insights from dive tourism. *Serv. Ind. J.* **2011**, *31*, 1769–1792. [CrossRef]
50. Du Preez, M.; Dicken, M.; Hosking, S.G. The value of Tiger Shark diving within the Aliwal Shoal marine protected area: A travel cost analysis. *S. Afr. J. Econ.* **2012**, *80*, 387–399. [CrossRef]
51. Orams, M. Economic activity derived from whale-based tourism in Vava'u, Tonga. *Coast Manag.* **2013**, *41*, 481–500. [CrossRef]
52. Daldeniz, B.; Hampton, M.P. Dive tourism and local communities: Active participation or subject to impacts? Case studies from Malaysia. *Int. J. Tour. Res.* **2013**, *15*, 507–520. [CrossRef]
53. Lucrezi, S.; Saayman, M.; Van Der Merwe, P. Perceived diving impacts and management implications at a popular South African reef. *Coast Manag.* **2013**, *41*, 381–400. [CrossRef]
54. Queiroz, R.E.; Guerreiro, J.; Ventura, M.A. Demand of the tourists visiting protected areas in small oceanic islands: The Azores case-study (Portugal). *Environ. Dev. Sustain.* **2014**, *16*, 1119–1135. [CrossRef]
55. Drakakis, P.; Papadaskalopoulos, A. Economic contribution of active sport tourism: The case of four sport activities in Messinia, Greece. *J. Sport Tour.* **2014**, *19*, 199–231. [CrossRef]
56. Gill, D.A.; Schuhmann, P.W.; Oxenford, H.A. Recreational diver preferences for reef fish attributes: Economic implications of future change. *Ecol. Econ.* **2015**, *111*, 48–57. [CrossRef]
57. Grafeld, S.; Oleson, K.; Barnes, M.; Peng, M.; Chan, C.; Weijerman, M. Divers' willingness to pay for improved coral reef conditions in Guam: An untapped source of funding for management and conservation? *Ecol. Econ.* **2016**, *128*, 202–213. [CrossRef]
58. Byrnes, T.; Buckley, R.; Howes, M.; Arthur, J.M. Environmental management of boating related impacts by commercial fishing, sailing and diving tour boat operators in Australia. *J. Clean. Prod.* **2016**, *111*, 383–398. [CrossRef]
59. Merchant, S. (Re) constructing the tourist experience? Editing experience and mediating memories of learning to dive. *Leis. Stud.* **2016**, *35*, 797–808. [CrossRef]
60. Hayes, C.T.; Baumbach, D.S.; Juma, D.; Dunbar, S.G. Impacts of recreational diving on hawksbill sea turtle (Eretmochelys imbricata) behaviour in a marine protected area. *J. Sustain. Tour.* **2017**, *25*, 79–95. [CrossRef]
61. Lucrezi, S.; Saayman, M. Sustainable scuba diving tourism and resource use: Perspectives and experiences of operators in Mozambique and Italy. *J. Clean. Prod.* **2017**, *168*, 632–644. [CrossRef]
62. Needham, M.D.; Szuster, B.W.; Mora, C.; Lesar, L.; Anders, E. Manta ray tourism: Interpersonal and social values conflicts, sanctions, and management. *J. Sustain. Tour.* **2017**, *25*, 1367–1384. [CrossRef]
63. Giglio, V.J.; Luiz, O.J.; Chadwick, N.E.; Ferreira, C.E. Using an educational video-briefing to mitigate the ecological impacts of scuba diving. *J. Sustain. Tour.* **2018**, *26*, 782–797. [CrossRef]
64. Jonas, A.G.; Radder, L.; van Eyk, M. The influence of cognitive dimensions on memorable experiences within a marine tourism context. *S. Afr. J. Econ. Manag. Sci.* **2020**, *23*, 1–14. [CrossRef]
65. Dearden, P.; Bennett, M.; Rollins, R. Perceptions of diving impacts and implications for reef conservation. *Coast Manag.* **2007**, *35*, 305–317. [CrossRef]
66. Davis, D.; Banks, S. Whale sharks in Ningaloo Marine Park: Managing tourism in an Australian marine protected area. *Tour. Manag.* **1997**, *18*, 259–271. [CrossRef]
67. Dixon, J.A.; Scura, L.F.; van't Hof, T. Meeting ecological and economic goals: Marine parks in the Caribbean. *Ambio* **1993**, *22*, 117–125.
68. Walpole, M.J.; Goodwin, H.J.; Ward, K. G R. Pricing policy for tourism in protected areas: Lessons from Komodo National Park, Indonesia. *Conserv. Biol.* **2001**, *15*, 218–227. [CrossRef]
69. Hawkins, J.; Roberts, C.; Kooistra, D.; Buchan, K.; White, S. Sustainability of Scuba Diving Tourism on Coral Reefs of Saaba. *Coast Manag.* **2005**, *33*, 373–387. [CrossRef]
70. Van't Hof, T. The economic benefits of marine parks and protected areas in the Caribbean region. In Proceedings of the 5th International Coral Reef Congress, Tahiti, French Polynesia, 27 May–1 June 1985; pp. 551–556.
71. Barker, N.H. Ecological and Socio-Economic Impacts of Dive and Snorkel Tourism in St. Lucia, West Indies. Ph.D. Thesis, University of New York, New York, NY, USA, 2003.
72. Gardner, T.; Cote, I.; Gill, J.; Grant, A.; Watkinson, A. Long-term region-wide declines in Caribbean corals. *Science* **2003**, *301*, 958–960. [CrossRef] [PubMed]
73. Ditton, R.; Loomis, D.; Choi, S. Recreation specialization: Re-conceptualization from a social worlds perspective. *J. Leis. Res.* **1992**, *24*, 33–51. [CrossRef]
74. Trail, G.T. Marketing sustainability through sport organizations. In *Introduction to Environmental Sport Management*; McCullough, B.P., Ed.; Forward Sport Sustainability LLC: Mill Creek, WA, USA, 2015; pp. 81–101.
75. Greenhalgh, G.; Drayer, J. An Assessment of Fans´Willingness to Pay for Team's Environmental Sustainability Initiatives. *Sport Mark. Q.* **2020**, *29*, 121–133. [CrossRef]

76. Rudd, M.A.; Tupper, M.H. The impact of Nassau grouper size and abundance on scuba diver site selection and MPA economics. *Coast Manag.* **2002**, *30*, 133–151. [CrossRef]
77. Parsons, G.R.; Thur, S.M. Valuing changes in the quality of coral reef ecosystems: A stated preference study of SCUBA diving in the Bonaire National Marine Park. *Environ. Resour. Econ.* **2008**, *40*, 593–608. [CrossRef]
78. Tonin, S. Citizens' perspectives on marine protected areas as a governance strategy to effectively preserve marine ecosystem services and biodiversity. *Ecosyst. Serv.* **2018**, *34*, 189–200. [CrossRef]
79. Nachhaltiges Reisen [Sustainable Travel]. Available online: https://de.statista.com/themen/3505/nachhaltiges-reisen/ (accessed on 15 January 2020).
80. Sustainable Tourism among Young Adults. A Survey about the Presence of Sustainable Tourism among Young Adults in Austria and Germany. Available online: https://camperswhocare.com/wp-content/uploads/2019/08/Sustainable-Tourism-among-Young-Adults-.pdf (accessed on 15 January 2020).
81. Abschlussbericht zu dem Forschungsvorhaben: Nachfrage für Nachhaltigen Tourismus im Rahmen der Reiseanalyse [Final Report on the Research Project: Demand for Sustainable Tourism in Travel Analysis]. Available online: https://www.bmu.de/fileadmin/Daten_BMU/Download_PDF/Tourismus_Sport/nachhaltiger_tourismus_nachfrage_bericht_bf.pdf (accessed on 15 January 2020).
82. Marktstudie zu online-basierten Dienstleistungen und Produkten im nachhaltigen Tourismus [Market Study on Online-Based Services and Products in Sustainable Tourism]. Available online: https://core.ac.uk/download/pdf/20658265.pdf (accessed on 15 January 2020).
83. Emery, C.A. Considering cluster analysis in sport medicine and injury prevention research. *Clin. J. Sport Med.* **2007**, *17*, 211–214. [CrossRef]
84. Ortenburger, D.; Wąsik, J.; Mosler, D. Perception of Self-Efficacy and Health-Related Behavior in Context of Taekwon-Do Sport Camps. *Sustainability* **2021**, *13*, 4645. [CrossRef]
85. Meinzen-Dick, R.; Kovarik, C.; Quisumbing, A.R. Gender and sustainability. *Annu. Rev. Environ. Resour.* **2014**, *39*, 29–55. [CrossRef]
86. Mohr, M.; Schlich, M. Socio-demographic basic factors of German customers as predictors for sustainable consumerism regarding foodstuffs and meat products. *Int. J. Consum. Stud.* **2016**, *40*, 158–167. [CrossRef]
87. Trujillo, J.C.; Carrillo, B.; Charris, C.A.; Velilla, R.A. Coral reefs under threat in a Caribbean marine protected area: Assessing divers' willingness to pay toward conservation. *Mar. Policy* **2016**, *68*, 146–154. [CrossRef]
88. Hodeck, A.; Hovemann, G. Motivation of active sport tourists in a German highland destination—a cross-seasonal comparison. *J. Sport Tour.* **2016**, *20*, 335–348. [CrossRef]
89. Fotiadis, A.K.; Vassiliadis, C.A.; Sotiriadis, M.D. The preferences of participants in small-scale sport events: A conjoint analysis case study from Taiwan. *Tourism* **2016**, *64*, 175–187.