

Article



Pairing Co-Creation with Food and Wine Experiences—A Holistic Perspective of Tourist Experiences in Dão, a Portuguese Wine Region

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Abstract: The literature increasingly recognises the value of food and wine tourism for destinations' competitiveness. Given the scarcity of conceptual and empirical studies on co-creation within this field of special interest tourism, this paper aims to enhance the understanding of how visitors and supply agents co-create value in food and wine experiences, by analysing such experiences in the Portuguese wine region Dão. For this purpose, a qualitative study was undertaken, analysing visitors' and tourism agents' perceptions regarding five food and wine experiences: food and wine pairing, wine tasting with food pairing, harvesting, a culinary workshop and a wine workshop. The discourse obtained via in-depth semi-structured interviews from sixteen visitors and three supply agents was content analysed, supported by QSR NVivo 12. The results show that dimensions of the conceptually defined co-creation experience were, indeed, perceived in the visitors' discourse, namely interaction (the most prominent in wine tasting and harvesting), active participation, engagement and personalization (the latter least reported). Sensorial engagement emerged from the discourse as an additional dimension that deserved attention. The agents' perspective confirmed the importance of these dimensions in experience design. This paper identifies theoretical and managerial contributions for destination management organisations, wine tourism agents and marketers, as well as relevant paths for future research in this field.

Keywords: co-creation experiences; food and wine experiences; rural tourism; wine region; Dão; Portugal; qualitative study

1. Introduction

Food and wine tourism has become a focal element of tourists' interests when travelling, arousing visitors' curiosities, distinguishing territories, and adding value to the travel experience. Wine and gastronomy are intrinsically related and can result in a distinctive and competitive tourism product. Vorobiova et al. [1] (p. 355) state that wine "can be considered part of the broader category of food tourism" and, indeed, visitors increasingly search for food and wine experiences when travelling [2], which suggests the growing evidence of a tourist market trend. Costa [2] states that 600,000 visitors cited food and wine as a primary motivation, and 20 million cited it as a secondary motivation, for annual trips in Europe. Food and wine experiences are sensory-rich, involve travellers in a pleasurable and relaxing way and may contribute to memorability [3–6]. Hence, in rural wine destinations, experiences such as food and wine pairing, wine tasting, grape harvesting, wine festivals and wine-related workshops are emerging, complementing traditional visits to wineries and cellar doors [7,8]. The rural wine region experience definitely comprises more than wine, requiring a set of tangible and intangible resources that, when combined, may be part of a highly immersive, creative food and wine experience [9–11].

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Due to their contributions to regional and local development, food, wine and other local products were increasingly acknowledged as central to unique, immersive and rural tourist experiences, yet the corresponding dynamics still require a better understanding [12–16]. With visitors becoming more interested in assuming a central role in tourism experiences, analysing how they become involved in these experiences and understanding their expectations is crucial. Experience co-creation emerged as a response to this new trend, resulting in a shared value creation through visitors' interactions with supply agents and the local community, which contributes to the uniqueness, perceived authenticity and memorability of the tourist experience [17–19]. Tourists' interest in becoming more engaged in experiences and having opportunities to be more participative and feel part of their destination while travelling is a growing tourism trend that enhances the pertinence of the notion of the tourist experience [17,18,20]. If experiences are designed in advance by supply agents considering tourists' expectations, these experiences may be more attractive and distinctive, leading to a more positive impact on tourists' satisfaction. Empirical research on co-creation in food and wine tourism is still scarce [20,21], despite the innovative character brought to the tourist experience by both areas. To address this research gap, the present study seeks to promote an in-depth analysis of the dynamics of value creation arising from visitors' participation in food and wine experiences, and thereby find evidence for the pertinence of the influence of co-creation to this special interest form of tourism.

This study, integrated into Twine, a four-year research project focusing on rural wine tourism experiences in three Portuguese wine routes (Bairrada, Dão and Beira Interior), aims to assess the role of experience co-creation in food and wine tourism design and in enhancing tourists' involvement in one of these routes, specifically Dão. The following research questions were correspondingly defined: (i) How is value co-created by visitors in food and wine experiences in Dão, a Portuguese wine region?; (ii) Which co-creation dimensions experiences emerge from visitors' discourse when reflecting on their participation in food and wine experiences in Dão?; (iii) Which are the most dominant co-creation dimensions reported in these experiences?; (iv) From supply agents' perspectives, to what extent is co-creation considered in food and wine experience design?; (v) To what degree do visitors and supply agents coincide in their reported emphasis on co-creation dimensions?

This study starts with a theoretical conceptualization, focusing on food and wine experiences in wine regions and co-creation experiences. The materials and methods used to respond to the abovementioned questions are described next, followed by the presentation of results. The article closes with a final debate on the meaning of the study findings, as well as an acknowledgement of the research limitations and an identification of future avenues of research regarding the topics under analysis.

2. Theoretical Background

2.1. Food and Wine Tourism Experiences in Wine Regions

Food and wine tourism is a varied and complex experience product that embraces natural and cultural destination elements that contribute to the uniqueness of the tourism experience [22]. Aside from wine and its production process, wine tourism comprises a cultural legacy in terms of history, tradition and local identity that adds value and differentiates the tourism experience [9,23,24]. Carmichael [24] (p. 186) explains that, as a tourism product, wine tourism is "based on agricultural land use and the production of wine that appeals to the senses of taste, smell and sight". In fact, food and wine experiences are multisensory, allowing for visitors' involvement through different senses. Hall [25] defines wine tourism as "the visitation to vineyards, wineries, wine festivals and wine shows for which grape wine tasting and/or experiencing the attributes of a grape wine region are the prime motivating factors for visitors". Visits to wineries and food and wine tastings are, in fact, traditionally part of this special interest tourism niche, but also

the enjoyment of the vineyards' landscape and the surrounding physical environment, where architectural elements merge with nature, are most valued experience dimensions, contributing to satisfaction and memorability [10,12,26]. However, it is today recognized that wine tourism in rural territories is more than a niche market phenomenon, adding value to the discovery of rural areas as well as uniqueness and identity to the visited places, which may be an interesting and appealing factor to many travellers that are generally interested in exploring rural territories, landscapes, hospitality and culture, together with their food and wine. The winescape, the natural environment in which wine tourism occurs, is of outmost importance to the experience context, enhancing the aesthetical dimension of the experience and being one of the main motivations to explore in wine regions. According to Santos et al. [27] (p. 12), the winescape is one of the four dimensions considered for being key drivers of "more successful and memorable wine experiences for all kinds of wine tourists", also recognized for being significant in the study by Thanh and Kirova [28] in Cognac region (France). The remaining dimensions are, according to the authors, wine storytelling, pointed out as the most significant, together with the excitement of wine tasting and wine involvement. For Crespi-Vallbona and Mascarilla-Miró [9], memorable and satisfying wine tourism experiences should diverse elements, namely 'participation', comprise 'hedonism', 'significance', 'knowledge', 'nostalgia', 'tasting', 'novelty' and 'local culture'.

Indeed, tourists are more knowledgeable and curious about wine and gastronomy and search for added value when engaging in such experiences, with a multiplicity of activities provided in diverse contexts. Apart from tasting the wine and learning about the characteristics of the terroir, wine grape varieties, wine production and culinary techniques, tourists also expect to partake in practical experiences, such as harvesting grapes or wine-blending workshops, as well as enjoying the vineyards' landscape and the rural scenery [7,12,22,26,29]. The terroir assumes, within this scope, a key role for embracing the characteristics of a region or the land that will influence the quality and distinctiveness of the wines and the aesthetics of the landscape. The Resolution OIV/VITI 333/2010 [30] considers that the terroir "includes specific soil, topography, climate, landscape characteristics and biodiversity features", contributing to enriching and differentiating wine experiences in wine regions. Hence, supply agents should be aware of the importance of considering all of these elements and of fostering attractive, immersive and educational wine experiences where tourists assume a central role and co-create value with the other participants (agents, staff, local community or other tourists) [12,17,22].

Moreover, understanding wine tourists' profiles is also important. Hall [25] identified three profiles: "wine lovers", "wine interested" and "wine curious". Wine lovers are particularly interested in wine and frequently visit wine regions as a sole purpose. They are educated and purchase wine on a regular basis. Their wine purchases occur frequently at wineries. Wine interested visitors also have a high interest in wine, but it is not their primary motivation to travel. They are also educated and buy wine at wineries and other specialized stores. Wine curious visitors are less interested in wine, may have already visited other wine regions, but they do not consider wine tourism as a primary motivation. They have a moderate education and may buy wine in wineries and other places [25]. All groups may require particular strategies to attract and appeal to them, by differentiating and adapting the approach to each profile, motivation, degree of involvement and expertise. Simultaneously, there are also general factors that are increasingly acknowledged as adding value to tourist experiences and these are related to experience co-creation.

Indeed, in the context of the global COVID-19 pandemic, the need to restructure offers and define new strategies that may contribute to attracting tourists in a safe way is of outmost importance [31]. Supply agents are facing the challenges imposed by the pandemic, regarding the reduction in tourism demand and the need to cope with health and safety protocols, including social distancing. However, these new requirements can also be perceived as an opportunity to deepen the understanding of tourists' needs and

expectations and to define new sustainable approaches in the tourist experience, specifically in food and wine tourism in rural wine destinations, that may contribute to adding value and distinctiveness to this special interest tourism.

2.2. Co-Creation in Food and Wine Tourism Experiences

Tourists are increasingly looking for and willing to be actively involved in experiences that provide them with the opportunity to co-create value with other tourists, supply agents or the local community. The interest in experiencing the local identity of a visited place may be considered a relevant tourism trend, identifiable in rural tourism [17,29,32] and also applicable to food and wine tourism [20]. In the tourism sector, the transition from the service economy to the experience economy is responding to new, emerging trends, according to which tourists are more active, search for authenticity, wish to be involved with and immersed in destinations and their culturen and interact with different aspects of wine tourism and enjoy personalized experiences [17,18,20,33,34]. Pine and Gilmore [35] suggest that engaging and memorable experiences can emerge when educational, entertaining, aesthetic and escapist experience realms are combined. Moreover, tourists' active or passive participation, as well as their feeling of immersion in the context of the experience, or absorption in the experience via observation, contribute to memorable experiences. In these contexts, interactions with both physical and human environments occur and significantly shape the quality of the experience [17]. According to Buonincontri et al. [36] (p. 266), value creation is manifested in the "process of interactions and transactions occurring between tourists and tourism service providers (...) during moments of contact in which both are involved". In food and wine experiences, interactive value creation should contribute to tourists' engagement and active participation as co-producers of their experiences [17,18]. Creative and diversified experiences in wine tourism that go beyond the traditional visits to wineries are needed to allow tourists to be in contact with local features of the territory and to enjoy high-quality food and wine products. Considering the perspective of Pine and Gilmore [35], wine entrepreneurs are expected to commoditize wine, as a distinctive and differentiated regional tourism product. Through 'edutainment', which suggests fostering entertaining and learning experiences at the same time, tourists may visit wine cellars, taste wine and gastronomy, experience food and wine pairing, attend wine festivals, walk in the vineyards, have a picnic in this natural context or even experience an overnight stay [28].

Recognising the tourist as the central element of these experiences, supply agents are expected to customize their supply to guarantee tourist satisfaction and memorability. Campos et al. [37] (p. 109) suggest that "active participation and interaction are conducive to memorability", with involvement and interaction being key elements of co-creation. According to Williams et al. [38], memorable experiences in food tourism comprise five attributes, namely "food risk-taking", "co-created relationships", "authenticity", "sociability" and "emotions". For these authors, the importance of co-creation in these experiences is related to the relationship established between tourists and hosts, reinforcing the importance of interaction in the co-creation of value. Stone, Migacz and Sthapit [39] (p. 9) also point out the importance of considering "social interactions" with different destination actors in food tourism, as well as the following elements, contributing to memorability: "sensory" and "emotional" features (positive emotions), "novelty", "focus and attention" on tourists' experiences, and "reflective connections" stimulating the later recollection of these food experiences [39]. With particular emphasis on sensory and emotional experiences, Schmitt [40] considers that sensorial ('sense'), affective ('feel'), cognitive ('think'), behavioural ('act'), and social identity features ('relate') contribute to appealing and memorable experiences. As multi-sensory experiences, co-creative food and wine tourism should correspondingly foster visitors' cognitive, emotional and sensory involvement [4,17,40].

In wine tourism destinations, Carlsen and Boksberger [41] (p. 132) remind us that "excellent service quality and the setting and surroundings of each winery visited" are fundamental attributes to take into account as components of fundamental importance in co-creation experiences. Prayag et al. [42] underline the role of the physical environment, with tangible elements of the visited terroir being central to enjoyable co-creation. Indeed, based on the holistic perspective adopted in this study, natural and cultural elements of wine regions are considered an integrated part of food and wine tourism experiences, significantly contributing to visitors' co-creation of value.

Experience co-creation has been a research topic of increasing interest in the tourism sector in recent years [20,21], although this research remains at an early stage. At the same time, conceptual and empirical research linking co-creation experiences with food and wine tourism is still scarce, despite its increasing importance in the tourism sector. Insights are beginning to emerge suggesting the relevance of co-creation in food and wine experiences, as identified, e.g., by Rachão et al. [43] or Carvalho et al. [20]. Rachão et al. [43] found that the level of active participation in food and wine experiences is influenced by experience co-creation as well as by the interaction amongst tourists, staff and local residents, with tourists' operant resources (i.e., tourists' knowledge and skills) all triggering satisfaction [43]. Carvalho et al. [20] presented a conceptual framework, resulting from an integrative literature review, where interaction (tourists' contact with supply agents, the local community and other tourists), active participation (the opportunity for tourists to be physically involved in the tourist experience), engagement (tourists' cognitive and emotional involvement in the experiences) and personalization (tailor-made experiences) were identified as the main co-creative dimensions to be applied in food and wine tourism experiences. Adopting a holistic perspective of the tourist experience, these authors concluded that tourists' co-creation of value demands the interrelation of the dimensions identified, which may contribute to tourists' satisfaction, learning, memorability and loyalty. Another perspective is presented by Cubillas et al. [44], who also reflected on core principles of value co-creation in wineries, adopting the four constructs that constitute the D.A.R.T. framework, proposed by Prahalad and Ramaswammy, regarding the interaction between customers and organizations [45]. These constructs are "dialogue" (interaction between tourists and supply agents in wineries), "access" (information available from the organization to tourists), "risk assessment" (knowledge exchanged between businesses and customers) and "transparency" (business strategies presented to tourists and the importance of considering tourists' ideas). Cubillas et al. [44] consider that adopting this model contributes to giving tourists the opportunity to be involved in experiences where value co-creation results from tourists' interaction and engagement.

It is in this context that the present empirical study aims to better understand how co-creation can positively influence the tourist experience based on the perceptions of tourists about their food and wine experiences and of supply agents in terms of how they consider co-creation dimensions, as suggested by Carvalho et al. [20], in the food and wine experience design. Empirical studies focusing on co-creation in diverse food and wine experiences in wine regions are still scarce [20,43]. Hence, this study aims at contributing to filling this gap, presenting findings that result from an exploratory qualitative analysis of visitors' and supply agents' perspectives on co-creation experiences in Dão, a Portuguese wine region.

3. Materials and Methods

3.1. The Dão Wine Route

The Dão region is located in Central Portugal (highlighted in Figure 1) and has been a demarcated wine region since 1908 [46]. This region comprises 16 municipalities, namely Viseu, Sátão, Aguiar da Beira, Penalva do Castelo, Fornos de Algodres, Mangualde, Nelas, Seia, Gouveia, Oliveira do Hospital, Carregal do Sal, Tábua, Arganil, Santa Comba Dão, Mortágua and Tondela [47]. Geographically, this region is surrounded by four mountain ranges (Serra da Estrela, Serra do Caramulo, Serra da Nave and Serra do Buçaco) as well as three rivers (Dão, Mondego and Alva) [48].

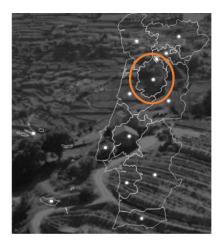


Figure 1. Dão region in Portugal. Source: Adapted from Turismo de Portugal, I.P. [48].

This region comprises 388,000 hectares, from which 16,000 are vineyards [49]. Dão is considered a Protected Designation of Origin (PDO), a term given to red, rosé, white and sparkling wines produced in this demarcated wine region [46]. The diverse grape varieties of the region contribute to the distinctiveness and rich flavours of its wines. The traditional wine grape varieties found in the region are Touriga Nacional, "the most noble variety, with its birthplace in the Dão region" [49], and Alfrocheiro, Aragonez/Tinta Roriz and Jaen as the red varieties. Encruzado, Malvasia Fina, Bical and Barcelo are identified as important white varieties [49]. As pointed out by Lopes et al. [47] (p. 206), the wines of the region "are velvety and full-bodied with a distinct acidity".

The attractiveness of the region is also closely related to its nature, with a landscape characterised by mountains, hills and valleys [50], as well as granitic features, giving a distinctly appealing character to the landscape. Health and wellness tourism is also an important tourism product in the region, with different thermal spas, namely Caldas da Cavaca (Aguiar da Beira), the Thermal Center of Carvalhal (Castro Daire), Caldas de Felgueira (Nelas) or the Thermal Centre of São Pedro do Sul [50]. Wine tourism is increasing in the Dão region, with historical small villages standing out, where typical rural features are well preserved (Lopes et al., 2018). The region's historical heritage is another meaningful asset for its wine tourism appeal, as several manor houses are now part of the wine route and are used as wine cellars, restaurants and accommodation, adding value to the tourism experience. Wine and food products are a nationally renowned, regional highlight, due to their authenticity and high quality (e.g., the famous Serra da Estrela mountain cheese, a rich and tasty broth that combines chickpeas, pasta, veal and kale called rancho, roasted veal or Vouzela pastries, a regional, very thin and light dough filled with egg candy).

According to Pordata [51], in 2020 there were 252.688 inhabitants in the region of Viseu Dão Lafões, and the reported population density was of 77.8 inhabitants [52]. Regarding the tourism sector, in 2019, there were 144 accommodation units in the region, and approximately 2250 overnight stays per 100 inhabitants were registered, a slight increase compared to 2016 (2132 overnight stays) [53]. The average length of stay was 1.91 for overnight stays; 1.81 for domestic tourists and 2.62 for international tourists [54].

The Dão route was created in 1995 and comprises 47 members, including wine farms, wineries and cooperatives [47]. Experiences focusing on food and wine tourism in wineries and restaurants, namely food and wine workshops, wine tastings and wineries' visits, food and pairing experiences, or harvesting are identified in the offers of supply

agents of the route, although these experiences were found to be offered by just a few agents [49].

The main aim of the route is to foster networking among the tourism sector, which is recognized as an important asset for regional development and the wine culture of the region [55]. The Dão Regional Wine Commission is responsible for the management and communication of the wine route, and Solar do Vinho do Dão is the route's official welcome centre [55].

As previously mentioned, this study is integrated in the scientific project Twine, and Dão is one of the wine regions under analysis. This article thereby contributes to better understanding co-creation in food and wine experiences specifically in this region. This rural territory is of interest since it represents a (nationally) well-known wine brand and is associated with rich, traditional gastronomy, being located in a rural area with several historically and culturally appealing elements. Additionally, this region has recently mde strategic investments in the wine route and in several wine tourism opportunities, some of which focus on co-creative experiences.

3.2. Data Collection

Target participants of this study were visitors (+18 years) who had had a food and wine experience in the Dão region in the two years preceding the study. This time span was considered appropriate for visitors to recall their past experiences in the region with as much precision as possible. From the 16 interviews, one was held face-to-face right after the experience in a winery and 12 referred to experiences that had happened up to 12 months before. Most of the interviews were held online through the Zoom platform (12) and via telephone (3), since data collection coincided with the first COVID-19 lock-down period in Portugal (March to June 2020). Overall, interviews with visitors in the Dão region started in August 2019 and continued until September 2020.

Two sampling techniques were used. First, a convenience sample was considered the most appropriate for this exploratory study. Despite recognizing that selection bias may occur in the case of convenience sampling [56], the only criterion to select visitors within this scope was that those visitors had engaged in a food and/or wine experience in the region and were available to answer the open-ended questions of a semi-structured interview. During the first lockdown period, the authors looked for target participants in their network contacts and on social media (specifically Facebook and Instagram). Interviewed visitors were also asked to suggest other visitors' contacts, who matched the established criteria, which created a snowball method. The interviews were scheduled according to visitors' availability and were recorded with their allowance. Thirteen interviews were carried out in Portuguese and three in English, in line with visitors' different nationalities. The average length of the interviews was 50/60 min. The interviews were later transcribed verbatim.

The agents' perspective was also analysed regarding the importance given to co-creation in the experience design. After the identification of (relatively few) supply agents of the Dão route who offered co-creative food and wine experiences (with visitors' active participation), contacts were established with three supply agents, who were prepared to participate in the study. The interviews were held via telephone (2) and online via the Zoom platform (1).

In this exploratory study, the number of interviewees was defined according to the interest in identifying, through an in-depth data analysis, individuals' perspectives, opinions, feelings or attitudes [56]. Accordingly, sample sizes were small, considering that, according to the literature, a number ranging from 1 to 25 was regarded as adequate [57,58]. As a qualitative tool, semi-structured interviews allowed researchers to gain an in-depth knowledge of visitors' perceptions and to establish rapport, fostering a favourable environment for the interviewees to express their ideas, feelings and perceptions regarding previous experiences [57].

Two semi-structured interview scripts (one for the visitors and the other for the supply agents) were developed and reviewed by researchers of the mentioned Twine project and validated by experts in the food and wine tourism field. The visitors' semi-structured interview encompassed three sections (Table 1): (i) visitors' food and wine experience expectations when travelling to wine regions and to Dão, and the importance of wine and gastronomy, both in general and when travelling to tourism destinations; (ii) the visitors' food and wine experiences in the Dão region, their main characteristics, social interactions and sensory experiences, as well as the consequent learning outcomes; (iii) the visitors' profile.

Table 1. Open-ended questions addressed to visitors.

	Questions from the Semi-Structured Interview				
	What do you expect to experience in wine regions? Additionally, in Dão?				
	How important is wine for you?				
Section I	Is wine important when choosing a tourist destination?				
Expectations regarding wine re-	When do you consume wine? Regarding gastronomy, do you consider yourself a person who is interested in				
gions and Dão					
Involvement with food and wine	culinary experiences and gastronomy in your everyday life?				
(in general and on holidays)	How important are gastronomic experiences when you choose a tourism destina-				
	tion?				
	Do you look for gastronomic experiences/workshops when you travel?				
	Given the experience in the Dão region, how would you describe it?				
	What activities did you engage in?				
Section II	How do you characterize the contact you had with other people (staff, resident				
Food and wine experiences in Dão	o other tourists) during the experience?				
	What did you learn?				
	In what way were your senses stimulated?				
Section III	Gender, age, nationality, educational level, motivation, type of visitor, travel group				
Visitors' profile	Genaci, uge, nationality, caacatoria level, monvation, type of violiti, naver group				
	For the supply agents, the script of the interview included five open-ended ques- (Table 2) on how the agents consider co-creation in experience design.				

Table 2. Open-ended questions addressed to supply agents.

3.3. Data Analysis

Content analysis was used to analyse and interpret the qualitative data resulting from the semi-structured interviews for both visitors and supply agents, and QRS Nvivo 12 software supported the analysis. Procedures included the creation of the corpora of analysis, based on: (a) the knowledge gained from literature review on co-creation and its dimensions; (b) the visitors' and the agents' answers to the interviews, with the partly inductive identification of categories and subsequent coding, which facilitated identification of patterns in the analysed discourse [56]. Considering the subjectivity associated with the coding process [57], and the validity criteria of content analysis, more specifically "stability", "reproducibility", and "accuracy" [59] (p. 72), the following procedures were defined: repeating the coding process within a time span of two months; using qualitative software to support in-depth analysis; validity check of identified dimensions via conceptual debate amongst three researchers familiar with co-creation experiences; and a clear description of the procedures adopted.

4. Results

Table 3 shows the visitors' profiles. Most visitors were Portuguese (N = 8) and Brazilian (N = 5), and the remaining were English (N = 1), Finnish (N = 1) and North American (N = 1). Out of the 16 visitors, 13 were living in Portugal. The number of male visitors was slightly higher (N = 9) than that of female visitors (N = 7). Most visitors' ages ranged from 30 to 45 years old (N = 9). In terms of educational background, almost all visitors (N = 14) had finished college (N = 6) or had a Master's (N = 3) or a PhD (N = 4) degree. Most visitors were tourists (N = 9) and the remaining were same-day visitors (N = 7). Most travelled to the region for leisure (N = 5) and business (N = 7) purposes. Weekend (N = 3) or holiday visits (N = 1) were less registered. In terms of travel group, just one of the visitors travelled alone for business reasons. The other visitors travelled with their family, friends or co-workers.

Code	Gender	Age	Nationality	Educational Background	Motivation	Type of Visitor	Travel Group
V1	Female	27	Portuguese	College	Holidays	Same day visitors	Couple
V2	Male	40	Portuguese	Master	Leisure	Same day visitors	Friends
V3	Male	36	Brazilian	Postgraduate studies	Weekend	Tourist	Family and friends
V4	Female	33	Brazilian	Master	Weekend	Tourist	Family and friends
V5	Female	30	Brazilian	Master	Leisure	Tourist	Couple
V6	Female	40	Brazilian	College	Business	Tourist	Solo
V7	Male	36	English	College	Weekend	Tourist	Couple and friends
V8	Male	21	Brazilian	College	Lei- sure/Business	Same day visitors	Family and friends
V9	Male	57	Finnish	PhD	Leisure	Same day visitors	Friends
V10	Male	57	Portuguese	High School	Lei- sure/Business	Tourist	Family
V11	Female	42	Portuguese	PhD	Leisure	Same day visitors	Couple and friends
V12	Male	51	Portuguese	College	Business	Tourist	Co-workers
V13	Female	58	Portuguese	Bachelor	Leisure	Same day visitors	Family
V14	Male	44	Portuguese	PhD	Business	Tourist	Co-workers
V15	Male	39	North Ameri- can	College	Business	Same day visitors	Co-workers
V16	Female	49	Portuguese	PhD	Business	Tourist	Co-workers

Table 3. Profile of the interviewed visitors.

The interviewed supply agents were members of the Dão route. As presented in Table 4, one of the interviewees had a leading role in an accommodation unit, another in a restaurant and wine cellar, and the third in a wine farm.

Table 4. Supply agents.

Code	Supply Agent	
AO1	Accommodation	
AO2	Restaurant and wine cellar	
AO3	Winery	

According to data analysis, two wine visitors' segments emerged based on Hall's (1996) typology (distinguishing "wine lovers", "wine interested" and "wine curious"). Both groups of visitors appreciated wine; however, with a distinct depth of involvement in it. In the first segment (N = 6), called "wine lovers", there were visitors who had appreciated wine for a long time (for some, wine was related to their professions), who were connoisseurs of the wine process and the region's wine features, frequently consumed wine, and had already had different wine experiences in Portugal and abroad. This segment was educated, had a critical perspective on wine and usually bought wine from local producers, wineries and specialized stores, spending between EUR 100 and EUR 300 on wine each month. The other segment (N = 10) could be named "wine interested". They also appreciated wine and were curious to learn more about it. Some of them had already participated in different wine experiences in Portugal and abroad, and were willing to participate in wine experiences in different destinations. They were also educated and usually bought wine from local producers, wineries or supermarkets, but spent less money on wine than "wine lovers" did (between EUR 20 and EUR 60 per month).

4.1. Travelling to Wine Regions

When asked about what expectations they have when travelling to wine regions, visitors mainly referred to aspects related to wine (tasting good wine and gastronomy, getting to know new wine grape varieties and the wine-producing process, as well as historical and cultural features of wine), experiencing authenticity (through close contact with local activities), having new experiences (beyond the traditional and fostering new feelings and sensations), appreciating natural elements of the landscape (having close contact with nature and enjoying appealing landscapes), social contacts (meeting friends and 'great people'), appreciating architectural elements and searching for advice on wine quality. One of the visitors also highlighted the sense of peace desired when travelling to these regions, as opposed to the daily city context: "having a time of peace, outside this urbanity in which I normally live" (V10). One visitor also pointed out that he/she had no expectations.

Visitors were also asked about how important wine was for them. Although most visitors have never selected a holiday destination specifically because of wine, for most it was reported as an important complement to the trip, and the majority considered wine to be part of their daily life. For some, wine was part of their personal life and professional career, which was perceived as a real pleasure: "100% I would say!! It is present every day and we talk about wine every day." (V3)

Visitors were unanimous in stating that they are used to giving wine as a gift to family and friends who appreciate it, most of them also highlighting its importance and mirroring the centrality of wine in those individuals' lifestyles: "I think the best gift you can give a person is a good bottle of wine." (V13).

Wine is also perceived to be important due to its close relationship with gastronomy, as stressed by some visitors. For one of the respondents, this relationship was part of her motivation to travel: "Wine asks for food, asks for people around a table, I think that is fundamental, and as I said, in my destinations, I always look for places where I can have a food and wine experience." (V6)

Food and wine pairing is also mentioned for being related to a region's cultural and historical features, which may constitute an interesting and distinctive attraction in des-

tinations. One of the visitors stated that "wine is something that elevates flavours and is a cultural issue" (V14), thus connecting senses and culture. Another visitor considered that "wine goes well with the cuisine of the region" (V10), enhancing the authenticity of the products and the importance of taking advantage of destinations' assets. Wine also seems to be important due its social dimension, being associated with relaxation, leisure time, socializing with friends and family, and with special events. One of the visitors associated wine with good memories, which confirms the emotional, enduring centrality of wine experiences, possibly associated with the formation of its involvement and habits. One of the visitors highlighted that wine is part of her 'Portuguese identity', emphasizing the importance of this special product in forming and deepening social and emotional bonds:

"I am from a big family, everyone likes to sit around the table to enjoy a good wine... everyone likes to bring a different wine to taste... there's a little bit of that culture in our family." (V13)

Another visitor reported the importance of wine in business contexts, namely in business meals, due to the possibility of fostering a more interactive and relaxing atmosphere.

Almost all visitors interviewed enjoy wine on a regular basis, mainly at the weekend, and some of them also during the week with meals. Wine is also clearly referred to as playing an important part in events and celebrations with friends and family. Visitors' perspectives highlight the central role of wine in their lives, in a regular, typical social context, or in special, festive occasions.

Regarding the close relationship between gastronomy and wine, most visitors (N = 12) also expressed their interest in gastronomy on a daily basis, reflecting that they appreciated cooking, even as a hobby, and to welcome friends and family for dinner, referring that "cooking is a very important thing, it is part of our life" (V13). One of the visitors even mentioned that, as a couple, they appreciate preparing food and wine pairing meals together and enjoy the opportunity to appreciate good quality products with family and friends:

"We prepare the dishes and we often think what to do to pair something with that wine and hence try a food and wine pairing." (V4)

For some of them, culinary habits and the passion for gastronomy were also linked with their professional careers (as they were chefs, sommeliers, food and wine experienced entrepreneurs), which was also reflected in their daily food and wine consumption patterns.

When asked about their search for food and wine experiences while travelling (e.g., food tour experiences, tasting experiences or culinary workshops), despite the centrality of food and wine amongst the interviewed individuals, most (N = 9) referred that they had never tried any wine of this kind before (some had experienced this wine for the first time when interviewed). However, almost all of them (N = 13) revealed their interest in participating in this kind of experience in the future, if given the opportunity to do so. This is a great insight for destinations who may invest in these experiences, namely in wine regions, as demand for these experiences is increasing, while apparently supply is still scarce (as otherwise the interviewed group would certainly have participated more in such offerings). Other visitors (N = 7) mentioned that they had already participated in culinary and wine workshops (e.g., vegetarian culinary workshops, chocolate workshops), or highlighted their usual interest in visiting local markets, local small cheesemakers, olive oil producers or appreciating show cooking events in restaurants when they travelled. Only three interviewees expressed that they had no curiosity for searching for culinary workshops.

Almost half of the visitors also mentioned that, when planning their holidays, they were used to previously selecting the restaurants they wanted to visit. For the other half,

this was not an important topic before travelling, i.e., since they possibly had a more spontaneous and adventurous attitude towards their food experiences.

4.2. Travelling to the Dão Region

Visitors reported that what made them visit the Dão region specifically were mainly the following five aspects: (1) the opportunity of getting to know the region, (2) its wine (3) and its gastronomy; (4) socializing opportunities; and (5) friends' recommendations. This reveals the great importance of wine and gastronomy as pull motivations for visits to rural wine destinations, and the important role they play, particularly in the Dão region. Visitors originally from the region highlighted their pride in exploring wine tourism in the Dão region and witnessing its evolution into a high-quality wine tourism destination, mainly associated with vineries, restaurants or accommodation units. Aesthetically appreciating the region for its beauty, the landscape and the granite as a characteristic of the region were also considered by different interviewees for being particularly attractive. The possibility of enjoying a sense of peace, mainly triggered by the contact with nature, was also highlighted. One of the visitors referred to his fascination with Viseu, the biggest city in the region, underlining the enriching historical features, manor houses and several characteristic villages nearby, revealing an appreciation of the culturally and historically rich territory. Regarding the central and frequently mentioned role of wine as a key attractor of the region, a Brazilian visitor, who is a sommelier, highlighted her preference for Dão wines:

"I really like Portuguese wines, from all regions, but Dão, for me, has that elegance and freshness that for me are fantastic and I have enormous affection for it." (V6)

For another visitor, the possibility of visiting wine cellars and getting to know the producers was a major attraction, revealing a sense of privilege to get close contact with authentic historical and cultural features of wine production in the region.

One of the visitors recognised that Dão had a lot to discover and was a very special, unique and not such a well-known or 'main stream' destination:

"This is my fascination with Dão, because it's a region that still has a lot to give and a lot to discover and few people know much about it." (V10)

For a few visitors, the interest in exploring an unknown region and the recommendation of friends and family were the main aspects that attracted them to Dão. Two of the interviewees also highlighted their interest in meeting friends in the region or in providing wine tasting experiences and visits to wineries in the region to relatives who live abroad.

4.2.1. Food and Wine Experiences in the Dão Region—The View of Visitors and Supply Agents

Visitors reported having been involved in different experiences in the region over the preceding 24 months, namely in food and wine pairing, wine tasting with food pairing, a culinary and wine workshop and a harvesting experience. Table 5 presents the experiences the interviewees participated in (one or two experiences) as well as the facilities where these took place.

	Experiences							
	Food and Wine Pairing (in Wine Cellars and Restau- rants)	Wine Tasting with Food Pairing (in Wine Cellars and Restaurants)	Culinary Work- shop (in a Restaurant)	Wine Workshop (in a Wine Cellar)	Harvesting (on a Farm)			
V1	х			х				
V2	х	х						
V3	х	х						
V4	х	х						
V5					х			
V6		х						
V7					х			
V8		х						
V9		х						
V10	х	х						
V11	х							
V12	х	х						
V13		х						
V14			х					
V15	х							
V16			х					

Wine tasting with food pairing and food and wine pairing (in wine cellars and restaurants) were the most mentioned experiences (N = 9 and N = 8, respectively) that were recalled and described by visitors. Both harvesting (on a farm) and culinary workshops (in a Michelin-star restaurant) were remembered and detailed by four visitors. Just one interviewee participated in a wine workshop, called 'Be a winemaker for a day' (in a wine cellar).

Regarding the identification of co-creation dimensions emerging from visitors' perceptions of their food and wine experiences in Dão, Table 6 shows the presence of these dimensions per experience, as well as the average number of references per respondent participating in each experience. According to the data analysis, sensorial engagement was the most prominent dimension, standing out in the case of harvesting (6.5 references per respondent), food and wine pairing (6.4 references per respondent), wine tasting with food pairing (3.2 references per respondent), followed by social interaction (5 references per interviewee, as for harvesting), 3.3 references in the case of wine tasting with food pairing, and 1.4 references in food and wine pairing. Engagement was mostly identified in harvesting (10.5 references), wine tasting with food pairing (2.8 references) and in the wine workshops (2 references). Active participation was also highlighted in harvesting (3.5 references per respondent). Personalization was less perceived in visitors' discourse, with just a few references in the wine tasting with food pairing experience (0.2 references) and in the wine workshop (1 reference).

Table 6. Co-creation experience dimensions identified in visitors' perceptions of their food and wine experiences in Dão.

	Co-Creation Experience Dimensions					
Experiences	Social Interaction	Active participation	Engagement	Personalization	Sensorial Engage- ment	
Food and wine	Referred 11 times	Referred once	Referred 4 times	Not identified	Referred 51 times	
pairing	(1.4 references)	(0.1 references)	(0.5 references)	Not identified	(6.4 references)	
Wine tasting with	Referred 30 times	Referred 5 times	Referred 25 times	Referred twice	Referred 29 times	
food pairing	(3.3 references)	(0.6 references)	(2.8 references)	(0.2 references)	(3.2 references)	
Culinary work-	Referred 3 times	Referred twice	Referred 3 times	Not identified	Referred 8 times	
shop	(1.5 references)	(1 reference)	(1.5 references)	Not identified	(4 references)	
Wine workshop	Referred twice	Referred 3 times	Referred twice	Referred twice	Referred 5 times	

	(2 references)	(1.5 references)	(2 references)	(1 reference)	(5 references)	
Harvesting	Referred 10 times	Referred 7 times	Referred 21 times	Not identified	Referred 13 times	
	(5 references)	(3.5 references)	(10.5 references)	Not identified	(6.5 references)	
Note: absolute momban of information (in the distance of unlageneric and ant)						

Note: absolute number of references (in brackets mean value per respondent).

It is worth noting that the experience that triggered the most co-creation experience dimensions per respondent was 'grape harvesting', rated high in all dimensions except for 'personalization'. One may assume a particular impact of these experiences on visitors and their travel memories. In the following sections, these experience dimensions will be further detailed and illustrated with interview excerpts.

Social Interaction

Visitors' references to the interaction with different actors were identified very often when describing the experiences under analysis and were always mentioned in a positive tone. In wine tasting with food pairing and wine and food pairing, interactions with the staff of the wine cellar and with the wine producer were the most identified. Visitors highlighted how informative these visits were, in part due to the guidance, empathy, and hospitality of the staff during the wine tasting, contributing to enhanced appreciation of the local products (e.g., olive oil, bread, cheese, and ham), as exemplified in the following excerpts:

"It was very close, really, people welcomed us as if we knew each other, they were very friendly." (V3)

"When someone explains it to us [regarding wine tasting], and he explained it very well, we ended up really noticing and taking away those aromas: the earth, the chocolate, the caramel, the red fruits... I think it was a very interesting experience. We learnt a lot." (V13).

The contact with the wine producer seems to have been meaningful in these experiences, mainly due to the visitors' interest in listening to wine producers' stories, getting to know all the details associated with the wine production process (e.g., grape ripening, the harvesting process) and by asking questions "and taking an answer from their [the producers'] experience" (V15). This interactive relationship promoted visitors' identification with the wine they were tasting, as well as with the place and its people, while permitting an engaging and authentic learning experience, being recalled as enriching and memorable. For some visitors, the contact with the winemakers was one of the key values of their experiences. One of the visitors mentioned:

"I think that the most special was being able to sit and talk with these winemakers that I barely know, only through their bottles, not through their mouths. So, to meet these people in person, they're icons, it's incredible. (...) To me tasting involves all senses, it's not just about the nose and mouth. So, to taste the wine with the person that made it at the place where it was made largely enhances the flavour of the wine on an emotional, mental, intellectual level. So that is my favourite part, absolutely." (V15)

The same visitor highlighted how special it was to have the opportunity to taste the regional wines, directly from the cellar to the table, making the experience more unique and outstanding, as exemplified in this response:

"To taste the wine that travels from the cellar of the winery to your glass and has not moved more than twenty or thirty meters is very different from tasting the wine in a restaurant that is 50 km away or 4000 km away." (V15)

The social contact with the travel group stood out in the case of both visitors who were involved in the culinary workshop. They considered that the fun, relaxing and interactive atmosphere created in the context of the workshop made it memorable. Additionally, an interviewee who had participated in the wine tasting with food pairing experience considered the contact amongst the travel group to be the best part. Contact with the local community was mentioned by one visitor, who had the opportunity to experience an informal wine tasting with a friend from the region and his family. The visitor stated that the bonds created in these contexts were one of the reasons that made her want to return to the region. Another visitor highlighted how special it was to establish a relationship with one of the farm workers during a harvesting experience in Dão. This was one of the most important memories from the experience of this visitor, who highlighted the privilege of relating to someone who was part of the local community and was involved in this wine-making process as a worker.

These insights show how important social interaction is for engaging value co-creation in food and wine experiences and it should be recognized as a key dimension in this field. The agents interviewed corroborated this perspective, remarking that interaction fosters a relaxing and positive experience that influences visitors' overall satisfaction. The agents understand their responsibility for stimulating an atmosphere, in which visitors are willing to actively engage in interactions with the agent and the group, asking questions, making comments, even contributing with their own stories.

Active Participation

Active participation was highlighted in the harvesting experience, where visitors had the opportunity to pick the grapes in a wine farm for the first time and observe the consequent wine production process. One of the visitors recognised that participating in this experience contributed to a deeper awareness of wine as a unique product, resulting from hard, focused, physical work, considering that he felt special for becoming part of the harvesting process. He stated:

"When you are cutting the grapes and then you're realizing 'do not cut the leaves, only the fruit'... (...) being there, you feel the grapes on the vine... you're working your body, you're feeling pain in your back, you're carrying the grapes. Yeah, you really... that is the moment when you understand wine." (V7)

The other visitor also considered that participating in the harvesting and understanding how to pick the grapes with the farm workers was very special. She even considered that the active participation was crucial to feeling involved in the experience, creating a more memorable experience. She said:

"Maybe, if I had just seen it, I would not remember it in so much detail or still feel the feeling [7 months later] or have so much desire to return, but being part of it made me enjoy the experience even more." (V5)

She also highlighted that the possibility of co-creating was a distinctive feature of the whole experience:

"Without any of these elements [the contacts and physical activity], it would not be so incredible, everything that I experienced with hands-on, co-creating with the locals, visitors... I think that all these elements were crucial to the incredible experience." (V5)

Active participation was also found in the culinary workshop, where visitors had the opportunity to cook a full meal. This participation contributed to their cognitive (learning outcomes) and emotional (being proud to be actively involved in the work of a Michelin-star restaurant) engagement in the experience. In the wine workshop, called 'Be a winemaker for a day', one individual visited the winery and was part of the wine production process, taking a bottle home at the end. For this visitor, having the opportunity to actively participate in the activity instead of just observing it was what made the experience different, contributing to its uniqueness. The agents interviewed also recognised the importance of the tourists' active participation. They all reported that they tried to involve tourists in an active way when designing unique experiences, namely in the context of workshops producing bread, jams, cheese or sausages (with local products and local producers guiding the experience); in the harvesting experience (in the vineyards and in the winemaking process); in food and wine pairing experiences in the restaurants; in show cooking events with the restaurant chef; and in the traditional visits to the wineries. Agents sought to stimulate visitors by actively participating in these experiences:

"[in the jam workshop] The tourist may prove, stir the jam and pack it [by himself]." (SA1)

"[Tourists] they are usually always very participative, I remember... the Americans... when we are doing a show cooking and they are there with an apron and a pen and are writing down the recipes... they are super involved in this experience." (SA2)

Emotional and Cognitive Engagement

According to the agents, visitors also show an increasing interest in being involved and engaged in the experiences they participate in. In fact, this engagement is a significant part of the agents' concerns when designing these experiences:

"When I am doing a wine tasting and if I am explaining the aromas to them, sometimes I put a bit of pine needles in their hand, a bit of straw, that is it... the contact... that is very important. For us, the involvement... we try as much as possible that people feel good during the time they are with us! I think this is the main objective of wine tourism." (SA2)

"In the jam workshop, what the confectioner [from the local community] tries to pass on is the cultivation part, she talks about the cultivation done on the farm, how the farm started, with what types of cultivation, what fruits they have; she talks about our orchard, where we harvest fruits, lemons. We also have a plantation of blackberries, currants, red fruits... a contextualization [of the experience] is made." (SA1)

Agents perceive visitors' engagement through their interest in getting to know and learn about (i) culinary techniques of local dishes; (ii) how to taste wine and choose the right food and wine pairing; (iii) the wine and terroir characteristics; and (iv) sustainable practices adopted on the farm (e.g., the absence of chemicals used in the vineries and related wine-making techniques).

Agents also reinforced that one of their principals was to contextualize and transmit historical and cultural features of the local products that are part of the experiences, as well as the sustainable and traditional production techniques that are adopted:

"When a client engages in workshops, it is our duty to promote a little of what has been done by the Albuquerque family over the years [the original owners of what is a local accommodation today], because it was a self-sustaining and ecological farm in the second half of the 18th century." (SA1)

One example is the complex traditional process involved in the production of "queijo da serra", a typical and well-known tasty buttery regional cheese, from the milk of mountain sheep that are fed special herbs. Another example referred to the biological fruit from the orchard of the hotel that is cultivated by local workers. The agent stated:

"The fruit is planted here, it is harvested here, it does not take any kind of chemical products (...) the locals who work here in the exploration are sensible to that, and they also pass it to the tourists, and they give them our products to taste." (SA1)

Agents also highlighted that their passion and dedication to the experience provision is also visible in the decorative details of the experience scape, where rich multi-sensory experiences are idealized. One of the agents referred to how significant it is to arise visitors' emotions when providing a special and authentic high-quality experience. This agent stressed the importance of several elements of the experience that contribute to its uniqueness, namely through elements provided by the experiencescape, including multi-sensory stimulation (e.g., food and wine tasting where traditional dishes are part of the experience, the smell of smoked sausage) and the attention to detail of the table set, as reported:

"We have to take care of everything, so that people come here and are able to remember the smells of the fireplace, the dishes, so... that for me is very gratifying, people leaving with the greatest satisfaction, and being here with friends, having fun and escaping from their routine. It's the best pay I have. That is why I take care of the dishes, the glasses, that is it... I am careful with the details." (SA3)

Recalling the visit of a group to the wine farm, the same agent mentioned an episode involving a meal and the perceptions of one of the visitors. The atmosphere, warmed by the fireplace, and the china plates chosen by the agent for the meal, triggered an emotional experience in this visitor, who reported his nostalgia as a result of being taken to his childhood and his grandparents' house. The agent recalled:

"He said: 'it was already worth coming from Aveiro here, every meter I walked, it was worth it, because I came in here and smelled the fireplace, I could smell my grandmother's house! (...) Additionally, the dishes you set are the dishes my grandmother used to set on Christmas Day'". (SA3)

In the visitors' discourse, engagement was identifiable in almost every experience. In harvesting, one of the visitors remembered how she felt emotionally engaged when she was in the vineyards appreciating the aesthetics of the landscape, enjoying a certain sense of escapism and feeling motivated to participate in the process:

"The beauty of the place... I felt like I was in a movie set on an immense farm with so many grapes, it was a new setting for me, I had not yet been to a region like this, even at the time of the harvest with all the grapes there ready to be harvested... so I think the beauty, the desire, the interest in the theme and the experience stood out." (V5)

This visitor even stated that she felt enchanted, excited, happy and even fatigued by participating in the experience, which contributed to her engagement in the harvesting experience. The other visitor underlined how special he felt for being in close contact with a rural context and with nature, and how it fostered his involvement in the activity. He said:

"Yeah, to be inside [the vineyard] was fantastic. (...) One of the most important things is the fresh air, the smells, the natural sounds, the quietness, the peace-fulness, the fresh air. So, being in the middle of the fields was very tranquil. (...) So, it was very good to connect with this simple activity." (V7)

According to the visitors and the agents' perceptions, cognitive and emotional engagement definitely contributed to an outstanding experience, to tourists' satisfaction and memorability.

Personalization

Personalization was the least clearly observable dimension in visitors' discourse. In the wine workshop, the interviewee stressed how important it was to enjoy a private experience, where interaction with her partner and with the agent was facilitated:

"I also value being in a private experience, that is very important. (...) We can really focus on what we like and the experience that the two of us are living." (V1)

In the wine tasting with food pairing, visitors referred to the personalization associated with social interaction with the wine producer, enhancing the privilege of that contact and the possibility of focusing on what they appreciated the most. The interviewed agents were unanimous regarding the importance of personalization as part of a high-quality experience. For one of the agents, personalization is always considered in all experiences provided on the farm, and adaptations are made in accordance with visitors' age, preferences and needs, in terms of specific service arrangements as well as the storytelling techniques used, which results in a closer relationship with the client, and enhances overall satisfaction and loyalty.

One of the agents also mentioned that personalization should be considered more in the local accommodation that she manages. For this agent, it is important to welcome visitors in a personalized way, contextualize the history of the hotel, the gardens and other facilities and closely support guests during their stay, attending to their personal needs and even offering them special products for their birthday or other situations. The agent recognizes that personalization is an important asset of visitors' experiences that contributes to experience engagement, concluding that this approach deserves more investment in human resources.

Regarding the learning outcomes of these experiences, almost all visitors were unanimous in the topics they highlighted, mainly related to wine, gastronomy and the region. Regarding wine, references to the wine-making process or its characteristics and the high-quality products resulting from it, terroir characteristics, wine grape varieties or how to taste wine were the topics visitors learned more about. For one of the visitors, the experience in Dão contributed to reflecting more deeply on how special wine is due to its relation to the people behind the production of this beverage:

"Wine is made by people, so when you know their stories, you value wines more and more, because wine is a different drink. Wine is not like beer that is brewed in a factory, it has people behind it, whether in the vineyards, in the wineries, or at the front in wine tourism... Dão showed me even more this relationship with people." (V6)

Again, the social dimension of the experience is stressed here, showing its emotional and cognitive engagement values. Gastronomy also fostered learning outcomes that were related to culinary techniques (how to cook a typical dish), historical features about local products, particularly queijo da serra. Historical and cultural facts and particularities of the region and its communities and single local agents (e.g., stories of the farms and the families) and regional characteristics of the ecosystem (e.g., plants and growing species) were also addressed as learning outcomes.

Sensorial Engagement

Adopting a holistic food and wine experience approach in a wine region is fundamental due to the multi-sensory features of the experiences that visitors engage in and their impact on the overall experience outcome [60,61], as well as the consequent purchasing of local food and wine products [62]. In the case of the present study, visitors' experiences were also enriched due to a diversity of sensory elements including tastes, sounds, images and smells. Touch was less reported in visitors' discourse, although some features were identified.

When asked about how their senses were stimulated during the experience in the region, visitors mentioned the different flavours that included local products, such as wine and gastronomic delicacies, namely regional cheese, bread, ham, sausages, goat, giblets, strawberries, and grapes, the latter partly enjoyed while participating in harvesting. Almost all visitors related that gastronomy contributed to their overall satisfaction, "being even fundamental" (V8) for some of them due to the high quality of the local products, and for others due to their authenticity. For just a few visitors, gastronomy was a complement to their visit.

Regarding sounds, visitors who experienced food and wine pairing, wine tasting, harvesting and the culinary workshops were unanimous in identifying sounds from nature, such as water, birds, the river, trees, the wind and rain, as well as typical sounds

from rural contexts. Additionally, the absence of sounds, i.e., the silence and the consequent peace, were identified by visitors who experienced food and wine pairing, wine tasting, harvesting and the wine workshop. Unusually low levels of sound produced by nature, people talking far away, church bells or tractors in the fields were also mentioned.

When asked about the main images they remembered, visitors recalled the beauty of the landscape of the vineyards, the mountains, the green colour of the landscape and nature, and the grey colour of the buildings. Most responses resonated with previously mentioned aspects, related to other co-creative experience dimensions and may, indeed, show the emergence of another dimension of co-creation, namely 'sensory engagement'. One of the visitors who experienced food and wine pairing and wine tastings recalled how the landscape and other aesthetically appealing, unique rural features of Dão were particularly special to him:

"What really impressed me was the landscape, I keep repeating it, but I was delighted with what I saw, even because I had been to other wineries and at the top of the mountain, the view over the mountain is beautiful (...) To get there, you go through a little road, where only one car may pass, where there are stone walls on the side and you see the sheep, the shepherds... so I thought it was fantastic (...) it impressed me a lot, too." (V3)

In this response, apart from its clear emotional flavour ('fantastic'), the active participation through a (implicitly mentioned) an effort to climb to the top of the mountain via difficult, narrow streets, was referred to, revealing the link between sensory and emotional engagement and active participation, creating memorable experiences.

Another visitor, who participated in a food and wine pairing, remembered that the good memories of that day were not simply related to the experience itself. She emphasised how important it was for her to enjoy the physical surroundings and also mentioned the "wonderful landscape" on her way to the restaurant, which reminded her of her infancy, as she related: "vines from all sides, I think it's a wonderful thing, it's beautiful! So, that day, it was a mix of good memories". (V11) Other visitors who experienced the food and wine pairing as well as the harvesting and culinary workshop also highlighted the vineyards and the landscape as a positive visual memory. The rural features and ancient buildings, the appealing architecture of the wine cellars or restaurants and the beauty of the city of Viseu were also mentioned by visitors who were involved in the wine and culinary workshops, in food and wine pairings arousing from the wine tasting was also identified. These perspectives highlighted the importance of the aesthetic dimension in this region and its contribution to the promotion of emotional engagement and memorable experiences.

Almost all visitors recalled smells related to gastronomy (grilled meat, cheese, sausages and strawberries), wine (the cellar, wood, wine, wine must, wine grape smell of diverse varieties and of Touriga Nacional) and nature (plants, grass, wet lands). Touch was the least evident sense identified by visitors, even though the touch on the glass and on the bottle of wine and the linen in the embroidery and tablecloths from wine tasting and food and wine pairing were highlighted–"that touch of when a person sits at the table... it is part of the history of the local people, it is part of the culture of the region" (V10); and touching the grapes on the vines in the case of harvesting were identified–"the delicacy of picking the grapes and cutting the bunch there" (V5).

All in all, these testimonies reveal a strong, sensory-rich experiencescape, strongly contributing to other dimensions of co-creation central to its memorability.

5. Discussion

Consistent with previous conceptual and empirical studies [20,43] that pointed to scarce empirical evidence of the role of co-creation in food and wine experiences, this study aims to fill this gap by showing how visitors co-create value in food and wine ex-

20 of 25

periences in the Portuguese wine region of Dão, also revealing the prominence of co-creation dimensions emerging from visitors' perceptions of their experiences and suggesting 'sensory engagement' as a relevant additional dimension. The perspective of supply agents from the same region on co-creation experience design complements the study findings, attesting the relevance assigned to the identified co-creation dimensions when designing food and wine experiences. Overall, the combination of two relevant fields of study in tourism, namely 'co-creation experience' and 'food and wine tourism', as well as the integration of the perspectives of both supply and demand, add value to the existing literature and may contribute to a better understanding of these topics as well as to a more appealing and sustainable development of wine businesses and regions.

Following the suggestions of Hall [25] on wine tourists' profiles, this study identified two wine tourist segments amongst those interviewed in the context of participation in wine tourism experiences in the Dão region, 'wine lovers' and 'wine interested', contributing to the literature with insights regarding wine tourists' characteristics. It is first worth noting that the less wine-involved 'wine curious' tourists were not identified in the analysed experience context in this study, which suggests that the more specialist types of experiences that involve more time, investment and engagement are typically not sought by those accidentally visiting a winery when exploring a wine-producing region. However, as interviews were undertaken after the experiences under analysis, it may also mean that at least after such an experience, this tourist would move up the ladder from a simply 'curious' to a 'wine interested' tourist. This is a very important insight that should also be perceived by supply agents, as it can influence visitors' interest in repeating the visit or in recommending it to friends and family. To better understand the reason for the findings presented here, a distinct research design might be needed, studying visitors before and after the experience.

Hall [25] stated that previous knowledge and wine experiences of wine lovers may lead to a distinct and more intense involvement with the experiences. This study corroborates Hall's [25] findings, but also adds evidence suggesting that this intensity is not limited to wine lovers' experiences, since most wine interested tourists, who reported less wine expertise, also revealed a deep involvement with their experiences in the Dão region. We may consider that both previous knowledge and the curiosity to learn about wine and terroir characteristics are essential for visitors' immersion and engagement in their experiences. Moreover, based on study findings, more engaged tourists seem to co-create value in a deeper way, which is in line with the study by Cubillas et al. [44]. Understanding visitors' wine involvement profiles and wine consumption patterns is therefore of particular importance for supply agents who aspire to create wine experiences satisfying the needs and preferences of their visitors [11,25], with differentiated and personalized approaches certainly adding quality to the experience outcomes [8,9].

Considering the research questions focusing on the visitors and the agents' perceptions of co-creative food and wine tourism experiences, the results show that value creation strongly emerges from visitors' sensorial engagement. This dimension clearly contributes to their in-depth involvement, satisfaction and memorability. These insights are in line with Brochado et al. [4]. And Kastenholz et al. [60], who also showed that sensory-rich, nostalgic tourist experiences increased the purchase of local products amongst rural tourists, suggesting a direct impact of this experience enhancement on economic benefits to rural destinations. This is a relevant aspect that supply agents should take into account when designing food and wine experiences, regarding a more immersive and competitive offer.

Social interaction also highly contributed to visitors' value co-creation, mainly with local wine producers and staff, also enhancing knowledge transfer and the empathy felt for the visited places and its people. The contact with the wine producer was perceived as a privilege, contributing to the uniqueness, authenticity and memorability of the experience, which was already perceived in other studies [3,8]. The co-creation of value also resulted from visitors' social interactions with other visitors and the travel group, which

seemed to be meaningful in food and wine experiences, particularly in the more active harvesting and wine workshop. Indeed, as a multi-sensory experience, food and wine was closely related to social interaction and relaxing contexts, where positive emotions may arise and contribute to tourists' satisfaction and loyalty [61,63], as it became clear in this study. As mentioned by Prayag et al. [42], physical and social aspects of the experience significantly influenced co-creation in cooking classes, which was confirmed in this study, since the interaction with the chef and with the travel group in the culinary workshop was essential for an engaging learning experience, in a relaxing and entertaining atmosphere. This was in line with the study of Kokkranikal and Carabelli [6], who found hedonism as another key dimension in cooking classes. As one of the most reported dimensions emerging from the visitors' discourse, interaction should be understood by supply agents and destination management organizations (DMOs) as crucial to promote value creation amongst different destination stakeholders. Moreover, many tourists referred to their interaction with the experiencescape (enjoying the mountains or the vineyards) as a distinctive feature contributing to the perceived uniqueness of the experience [42]. Similarly, Carvalho et al. [32] also concluded that the interaction with the human and physical environments significantly enhanced visitors' engagement and immersion in another Portuguese wine region, Bairrada, leading to their satisfaction, location attachment and loyalty, which was also confirmed in the present study. Additionally, according to the supply agents' perspective, social interaction is a key component of the co-creation experiences they provide, either by developing activities that foster tourists' interaction with the local hosts or giving them the opportunity to interact with the travel group throughout the experience (e.g., in teambuilding initiatives). Evidence resulting from both actors' perspectives confirms the meaningful role of social interaction as a relevant co-creation experience dimension. These insights reinforce the significance of the adoption of a holistic perspective when designing food and wine experiences in wine regions.

This study also shows that visitors co-create value through active physical participation and cognitive and emotional engagement, both leading to a deeper satisfaction, as already mentioned by previous studies [17,34]. Visitors revealed that their active participation fostered social interaction, promoted a sense of immersion and engagement, facilitated their learning process, and contributed to the overall satisfaction and revisiting intention, mainly in harvesting, in the culinary and wine workshops and in wine tasting with food pairing. Saymaan et al. [64] (p. 380) refer that grape harvesting, bottling the wine or making the own wine "clearly contributes to a memorable experience". This is in line with the findings of this research. Supply agents corroborated the importance of fostering an active participation and engagement in food and wine experiences, which should be considered in the experience design.

Visitors showed that their personalization also contributed to their satisfaction, fostering value creation, particularly due to the highly appreciated attention they received while taking part in small or exclusive groups. Although personalization seemed to be the least evident dimension referred to by visitors, it had an impact on their engagement in value creation, e.g., when tourists actively participated in the wine workshop and the wine tasting and food pairing experience and could count on personalized support from the service provider; and when visitors could share their ideas and see their queries clarified. This aspect was clearly understood by the supply agents as a requirement to meet visitors' needs and expectations. This study provides evidence of the significance of personalization as a co-creation dimension, which seems to be not yet explored in literature on co-creation in food and wine experiences [20], and of insights on how this dimension may be developed in experience design [34]. This is a very important aspect that may be in line with the response to COVID-19 pandemic challenges, and effectively attend to personal tourists' needs and expectations that, when met, may contribute to their sense of safety in the experiences. Based on the study results, another aspect contributing to tourists' value co-creation in wine routes is their high interest in other destination elements aside from wine. In fact, visitors' multiple interests in natural and cultural wine terroir resources also contribute to adding value to the wine tourist experience, which is in line with other study findings [7–9,22,24,32,57]. This understanding justifies the adoption of a holistic perspective in food and wine experiences in wine regions, stimulated by collective, articulated action and corresponding governance entities, such as regional DMOs or wine route structures that integrate diverse kinds of wine-focused attractions and stakeholders. Such an approach may also promote territories' brand image, their attractiveness and their competitive advantage [1,32,65].

Within the scope of experience co-creation design, the agents also pointed out the importance of providing information on sustainable management practices, due to the growing interest visitors have for green issues [14]. Entrepreneurs and wine producers who foster green strategies in their wineries are contributing to a sustainable destination image and differentiating their businesses, as already pointed out in previous studies [66]. Aside from stimulating more sustainable food and wine experiences, green issues may also attract visitors with sustainability concerns, increasing the cognitive engagement and meaningfulness of the experience.

6. Conclusions

Experience co-creation in tourism is an emergent topic that has been approached in different tourism contexts (i.e., smart tourism, cultural tourism or accommodation), due to its relevance for enhancing more immersive and active experiences for tourists. In the tourism domain, the intertwining of co-creation with food and wine experiences is also attracting more attention within the scope of this special interest tourism, despite the scarcity of empirical research in this field and the novelty of this theme in the literature, which justifies the search for an in-depth understanding of how co-creation can add value to food and wine experiences. Hence, this study adds new insights to the literature by considering the above-mentioned research gap and finding evidence of the perceived value of co-creation dimensions in food and wine experiences, from the perspective of both tourists and suppliers, in the Portuguese wine region Dão.

Overall, this study underlines the strong and mutually reinforced relationships established between co-creative dimensions, which is an important insight for supply agents in the experience design. Indeed, visitors of wine regions seek participative, personalized and engaging experiences, where they can taste local products, learn about the region and about wine and food pairing, interact with knowledgeable and empathic staff and wine producers, from whom they learn curious stories behind the products they taste, always in the pursuit of an authentic, enjoyable and high-quality experience. Moreover, study results also show that the multi-sensory characteristics of wine experiences strongly contribute to value co-creation, which adds value to the literature on co-creation food and wine experiences.

Due to the COVID-19 pandemic, tourism services need to change their paradigm and embrace new strategies that meet visitors' needs and expectations in a more efficient and sustainable way. According to Fountain [67], food and drink tourism experiences should adapt to new trends in the post-pandemic era, adopting a 'getting back to basics' approach, 'valuing local and locals' and including 'food for well-being'. These reflections may be considered particularly relevant for rural wine regions, where authenticity and sustainability are part of tourists' expectations, and where rural communities need to find the resilience and capacity to cope with future crises, frequently through collective action [68].

Regarding the limitations of this study, focusing on food and wine experiences in a single wine region can be a limiting factor, since it is not possible to compare study results with data from other regions. In the future, an in-depth comparative analysis between diverse wine regions (Portuguese or foreign) would contribute to obtaining more insights into the research topic and providing evidence for whether the co-creation experiences are dependent on geographic and socio-cultural contexts. Furthermore, data collection occurred during COVID-19 pandemic. Therefore, there were no perceptions in this study on how visitors co-create value in food and wine experiences after the implementation of contact restriction measures. It would therefore be pertinent to examine how visitors become involved in these experiences in the post-pandemic era, to obtain new insights and understand if the co-creation of value may be somehow compromised.

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