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## Article

# Virtual wine experiences: Is covid extending the boundaries of wine tourism?

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## Virtual wine experiences: is covid extending the boundaries of wine tourism?

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**Abstract.** Wine tourism has long been a strategic tool for Italian wineries. The Covid-19 outbreak jeopardised its dynamics on multiple levels, creating physical (e.g., social distancing, travel bans) and psychological barriers. Online wine experiences constitute one of the key resilience strategies adopted by wine tourism actors, being still a relatively unexplored phenomenon in the scientific literature. The current study tackles this gap by analysing the drivers of interest in online wine experiences on the demand side, i.e. among a sample of Italian wine tourists (n=408), through Structural Equation Modelling (SEM). Notably, the model considers long-term (involvement with wine) and short-term (Covid-19 fear and anxiety) factors, digitalisation and willingness to support local wineries by partaking in wine tourism. Results highlight that the interest in online wine experiences is driven by context-dependent factors like fear and anxiety linked to Covid-19, and the involvement with wine. Diversely, willingness to go on a wine holiday is not a significant antecedent, even with Covid-19 fear and anxiety as limiting factors. Practical and managerial implications are discussed.

**Keywords:** virtual wine tourism, online experience, Covid-19.

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### 1. INTRODUCTION

The Covid-19 pandemic has profoundly impacted the tourism sector's dynamics, including rural and wine tourism. Notably, restrictions applied to slow down the diffusion of the virus, e.g., mobility bans and social distancing, revealed the sector's susceptibility [1]. The United Nations World Tourism Organization (UNWTO)<sup>1</sup> reported that within a very short time, 2020 international tourist arrivals in Europe fell to their lowest level since the 1950s (-70% compared to 2019). This was mainly due to the prolonged international travel and hotel closures limitations.

The Italian wine tourism sector suffered the Covid-19 effects, although some key characteristics helped its resilience to the pandemic. For instance,

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<sup>1</sup> UNWTO (2021). <https://www.unwto.org/covid-19-and-tourism-2020>

proximity to the place of residence has long been identified as a success factor in wine tourism [2], as visitors of wine regions are found to be largely domestic tourists. Indeed, except during the lockdown phase, Italian wine tourists were allowed to circulate within the country. Additionally, wine tourism usually takes place in rural areas, resulting in a higher perceived safety of this form of tourism in the case of threats (e.g., terrorist attacks) than urban destinations [3]. Nevertheless, international tourism flows have gained increasing importance for many Italian wine regions: see, for instance, the Prosecco Region (worldwide known for sparkling wine production), where almost 50% of tourists in 2019 were travelling from other countries [4]. International tourism flows, though, were jeopardised by the Covid-19 outbreak. The pandemic prompted the diffusion of fear and anxiety among the population [5,6,7] which contributed to changing tourists' travel patterns, including wine tourists. In 2019, Italy recorded 15 million wine tourists (+9% over the previous year), for a total turnover of 2.65 billion euros [8,9]. A recent study by Garibaldi et al. [9] highlighted that 44% of Italian wineries declared an overall financial loss between 10% and 50% following the Covid-19 outbreak. The loss for wine tourism activities reached -70% for almost 35% of the sample, raising concerns about the time needed to restore to the pre-covid performance of the sector.

Given that wine tourism is widely recognised as a core marketing channel for the wine sector [10], many wineries and oeno-gastronomic tourism providers found alternative ways to bridge the gap between producers and the final consumers (i.e., wine tourists) created by mobility restrictions and social distancing measures. In this context, online oeno-gastronomic experiences emerged as a strategic tool for remote communication and marketing to retain existing customers and attract new ones. Currently, this new trend is expanding from single wineries to consortia, which are offering virtual wine tastings as a territorial marketing tool. Indeed, Italian consortia (or *Consorzi di Tutela*), are associations of producers and processors in charge of governing, protecting and promoting Geographical Indications.

Thus, virtual wine tourism became a tool to overcome the deep uncertainty generated by the Covid outbreak, which after two years is still undefeated, and to boost the resilience of wine tourism actors. However, whereas the producer side of online wine experiences has been addressed [11], their attractiveness is currently unexplored from a wine tourist perspective.

As a novel contribution, this study allows this gap to be filled by exploring the interest in online wine tourism experiences (INTOWE) and examining its long-term

and short-term potential predictors while focusing on Italy, where wine tourism represents a stable and consolidated reality.

This research is of interest to the academic world as it represents the first attempt to investigate this emerging topic in the literature, providing interesting insights for future research. Finally, this study is helpful to understand whether online oeno-gastronomic experiences' attractiveness is short term and context-dependent or if it leaves room for long-term wineries planning. In this regard, the information provided can support wineries, stakeholders, and regulators in making strategic decisions and developing online wine experiences.

The paper is structured as follows: the first section proposes a review of the extant literature on the main antecedents of wine tourism intentions and presents the research hypotheses, while the following sections describe data and methods (second section), the results (third section), and the discussion and conclusions (last section).

## 2. THE COVID OUTBREAK AND THE MAIN ANTECEDENTS OF WINE TOURISM INTENTIONS

Over the last decades, wine tourism has become an important segment of the wine industry [12, 13]. Wine tourism experiences are indeed strategic marketing tools for wineries to establish a direct relationship with consumers (and customers), also at international level, gaining long-term benefits in terms of wine sales, customer education and loyalty creation [14, 15, 16]. Also, wine can be an essential way of presenting the identity and local culture of many destinations [17], and wine tourism can contribute to a wine region's economic development [18].

The Covid-19 outbreak caused significant impediments to both wineries (e.g., limiting their operating space) and wine tourists, who were impacted physically (e.g., the pandemic prevented wine tourists from travelling) and psychologically. In this extraordinary context, virtual experiences started to spread representing an essential tool for wine tourism stakeholders.

Intended as virtual tours of the winery, wine tastings, and food and wine events, online wine experiences imply consumers' engagement with wine and winemaking. For this reason, they fall under the definition of wine tourism [19]. People partaking in wine tourism activities are also involved with the product and presumably possess a pre-existing intention to go on a wine holiday. Traditional wine tourism activities are enjoyed by tourists looking for an immersive activity and with

the broader aim to experience the wine region as a whole, including landscape traditions, culture, and heritage [2, 20].

Accordingly, the literature generally identifies wine tourists as a heterogeneous group of people pursuing the full enjoyment from different aspects of a wine tourism experience [12, 21], and characterised by a different level of involvement with wine [22, 23].

The following paragraphs provide an overview of the main antecedents of wine tourism intention and factors that can impact the interest in online wine tourism experiences. Based on this, we present the hypotheses that the study intends to test. Due to the pandemic's extraordinary circumstances, we also test some hypotheses for exploratory purposes, as the role of fear and anxiety linked to Covid-19 in (wine) travel intentions.

### 2.1 Profile of wine tourists

Hall et al. [14] citing Johnson [24, p. 19], report that wine tourists are “visitors to vineyards, wineries, wine festivals, and wine shows for the purpose of recreation”. As highlighted by past studies [12, 20, 22], they also possess a certain level of knowledge about wine. However, they are mainly wine consumers looking for pleasant and relaxing sensations to fulfil a total experience in the so-called “winescape” – that is “the place where wine tourism activities take place” [20]. Also, they are characterised by the need to connect with the origin of the product and visiting the wine region where a specific wine is produced [25]. Wine tourism represents a social leisure activity [2, 26, 27, 28], as tourists who engage in this are often accompanied by other people (e.g., spouse, partner, family members, close friends) [22, 29]. Scholars found that wine tourists profile can be characterized through both socio demographic and psychographic traits [14]. Among others, relevant factors are gender, age, education, wine consumption habits, financial status, lifestyle, motivation, and involvement [14, 25, 28].

### 2.2 Involvement with wine

The literature extensively reported that one of the main antecedents of wine tourism intentions is the product involvement, or involvement with wine (WI) [30, 31]. The concept of involvement refers to “a person's perceived relevance of an object based on inherent needs, values, and interests” [32, p. 342]. For leisure activities as wine tourism, it is appropriate to consider ego-involvement, i.e., the “unobservable state of motivation, arousal or interest toward a recreational activity or associated

product, evoked by a particular stimulus or situation, and which has drive properties” [33, p. 216]. Indeed, Sparks [34] argued that ego-involvement might play a key role, acting as a motivator in wine tourism.

Brown et al. [35] further conceptualised ego-involvement in wine tourism in a wine involvement (WI) scale, that is a 3-dimensional tool embodying symbolic centrality, enjoyment, and expertise, adapted from the Consumer Involvement Profile scale by Laurent and Kapferer [36].

Furthermore, Zatori et al. [37] developed the concept of experience-involvement referring to the real-time involvement that creates while undergoing a given experience. In fact, the most powerful phase in the formation of the tourist experience is the on-site experience, as some experiences might be highly involving and unleash positive emotions. Moreover, scholars found that involvement with certain activities or products also increases involvement with the related services [38, 39]. Previous studies demonstrated the positive relationship between product involvement and destination image [38, 40]. Additionally, WI proved to consumers motivations, the perceived importance of wine sensory characteristics like bouquet and appearance [41] as well as residents perceived relevance of the local production [42]. Since wine tourism activities revolve around wine tastings and wine experiences, it follows that WI is paramount to the sector. Coherently, involvement is of particular importance for hedonic products like wine, which consumption is complex and entails cognitive, affective and sensory dimensions that may assume a different relevance based on personal involvement levels [43].

Given the above and following the literature, WI may directly or indirectly affect consumers' wine tourism intentions [40, 44, 45] positively impacting on future travel intentions [38]. Given the key role of WI in determining wine tourism intentions, we expect the same relationship exists between WI and interest for online wine experiences and we test the following hypotheses:

**H1:** Involvement with wine (WI) positively affects the interest in online wine tourism.

**H2:** Involvement with wine (WI) positively affects future wine tourism intentions.

### 2.3 Willingness to support local wineries

The Covid-pandemic and the resulting socio-economic crisis have potentially induced people to become more sensitive to society's problems [46]. Therefore, willingness to support local wine producers may play a role in making wine tourists inclined to both online and offline

wine tourism. Several studies [47, 48, 49] highlight how consumers often perceive locally produced food or buying directly from the farmer (e.g., direct selling at the farm) as a means to support local farmers and communities. In this sense, tourists contribute to the value creation and economic sustainability of the territories [50]. In line with this, several authors [51, 52] argue that the direct interaction between producers and consumers creates or reinforces sentiments of trust and mutual regard, leading to a sense of commitment and solidarity. In this sense, tourists can concretely support the local producers. In this context, online wine tourism experiences can be practical tools when in-person meetings are not possible and/or challenging to achieve, as during the pandemic. The desire to support a winery during the pandemic might thus arise from a pre-existing interaction with the winery, since the product experience is a fundamental component of loyalty to a brand [53].

Moreover, the literature highlights that developing experiences that combine oeno-gastronomic traditions in wine tourism destinations generate positive emotions [9, 54], and create a sense of familiarity [55]. Familiarity is, indeed, the result of previous experiences (experiential familiarity), the extent of information used (informational familiarity), and how people self-perceive their familiarity with a place (self-rated familiarity), and it is affected by the perceived quality of a tourism experience [56]. According to Baloglu [57], building an emotional connection with a place can influence future behavioural intentions (i.e., future wine tourism visits). After the visit, online wine tourism experiences can help wine tourism actors (producers or wineries) build long-term relationships with their customers through long-distance actions that trigger trust and destination attachment [58]. From this perspective, in a highly competitive sector such as wine tourism in Italy, counting 408 wine Protected Designations of Origin, online experiences can be a strategic tool to establish new emotional bonds or reinforce existing ones, also stimulating future wine tourism intentions. Following this, we test the following hypotheses:

**H3:** Willingness to support local wineries (SUPLOCW) positively affects the interest in online wine tourism.

**H4:** Willingness to support local wineries (SUPLOCW) positively affects future wine tourism intentions.

#### 2.4 Covid related fear and anxiety

Other than causing severe impediments to international mobility, the pandemic generated significant psy-

chological discomforts: these are connected to the ease of transmission of the virus and the severity of the Sars-Cov-2 illness [59], and tend to be extensive and long-lasting [60].

The virus outbreak caused a general state of fear and anxiety [61]. Mainly, fear reflects in the individual awareness of a danger arising from pain and/or harm [5, 62], while anxiety represents a response to fear [63]. The recent psychological literature proposes several tools to capture individuals' fear of Covid-19 [see, for instance, 7]. Arpaci et al. [59] developed the first self-diagnostic tool to detect the presence of both fear and anxiety towards the virus, the Covid-19 Phobia Scale (C19P-S). Notably, the original C19P-S comprises four dimensions: economic (i.e., related to food security), psychological, psychosomatic, and social (i.e., referring to social relationships).

Since travelling implies a risk of contagion due to uncontrolled social contact with other people, which is the leading way the virus spreads [64], it may represent a dangerous activity. In this sense, the fear of Covid-19 contagion might push scared tourists to participate in an online wine tourism experience as a safer option. Therefore, we formulate the following hypotheses:

**H5:** Covid-related fear and anxiety (CPH) positively affect the interest in online wine tourism.

**H6:** Covid-related fear and anxiety (CPH) mediate the relationship between future wine tourism intentions and the interest in online wine tourism.

#### 2.5 Interest in online wine tourism experience

As mentioned, online wine tourism experiences (e.g., virtual tours of the winery, wine tastings, and food and wine events) imply consumers' engagement with wine and winemaking just like in-presence wine tourism activities. Therefore, wine tourists are likely to be interested in joining them, especially if pushed by Covid-19 restrictions. Research highlighted that Virtual Reality (VR) is a valid marketing tool for tourism destinations, since it allows consumers to experience a destination without physically visiting it, creating embodiment in the consumer, and acting as a trigger for wine tourism development [16, 65]. Petit et al. [66, p. 42] argue that digital interacting technologies are helpful tools for creating the "webmosphere", that is "the conscious designing of web environments to create positive effects". Recently, Wen and Leung [16] conducted a lab experiment exploring the effects of virtual reality (VR) and traditional videos of wineries and wine tours on young consumers' purchasing behaviour, based on the theory



of embodied cognition. The authors found that VR wine tours foster stronger purchase intentions and a higher willingness to pay for wine by knowledgeable consumers, especially when information on wine's sensory characteristics is provided.

Regarding wine digitalisation, it is reasonable to believe that wine tourists familiar with digital wine tools like wine e-shops and wine apps are more prone to approach online wine experiences as well. Notably, the literature highlights that highly involved wine consumers who consider themselves wine experts are more prone to use technology for purchasing wine [67]. As aforementioned, high wine involvement is a common trait of wine tourists, and highly involved wine consumers tend to be men (see, for example, [82]). Furthermore, since younger consumers of generations Y and Z are particularly familiar with these technologies [16, 68], they could be assumed to be more receptive to online wine experiences.

Therefore, we control for gender and age effects on INTOWE and postulate that strongly motivated wine tourists and digitalised wine consumers are reasonably more motivated to participate in an online wine tourism experience. Specifically, we develop the following hypotheses:

**H7:** Having an app on wine/wine tourism on the smartphone (WAPP) positively affects the interest in online wine experiences (INTOWE)

**H8:** Purchasing wine online (BUYWONLINE) positively impacts the interest in online wine experiences (INTOWE)

**H9:** Future intention to go on a wine holiday (FUTWTINT) positively affects interest in online wine experiences (INTOWE)

### 3 METHODOLOGY

#### 3.1 Structural Equation Modelling

To test the abovementioned hypotheses we used Structural Equation Modelling (SEM), since it is commonly used in the literature. Indeed, this multivariate analysis allows for the simultaneous relationships between different exogenous and endogenous variables, as hypothesised. In particular, a preliminary exploratory factor analysis of the whole measurement model (MM) was conducted through SPSS software, while confirmatory factor analysis (CFA) and the Structural Equation Model (SEM) were performed with AMOS software. To provide preliminary evidence of the discriminatory

power of the MM, an EFA with maximum likelihood as extraction method and oblique rotation was run on all items of our latent constructs, i.e., CPH, WI, FUTWTINT, SUPLOCW, and INTOWE, to provide further evidence of the items representing separate constructs.. Moreover, mediation is analysed through bootstrapping (1000 bootstrapping intervals) with bias-corrected confidence intervals (95%). This technique provides estimates without relying on distribution, and it therefore constitutes a reliable tool to test for indirect effects [69]. Specifically, mediation is present when the relationship between two observed variables or constructs (A and B) is affected by a third one (Z), resulting in the presence of a significant indirect effect. Relationships to be tested for mediation are first run without including the mediator in the model to assess A->B path's significance. Subsequently, the mediator is introduced in the model and the direct and indirect effects of A on B are estimated. Two types of mediation can occur in SEM: complete mediation, when only the indirect effect between A and B is significant while the direct effect is not; and partial mediation, in which both effects (direct and indirect) are significant. In case of complete mediation, the third construct (Z) fully explains the relationship between A and B [70].

#### 3.2 Data collection

Data were collected through an online survey administered on a sample of Italian wine tourists that were reached through snowball sampling via social networks and word of mouth. This sampling technique, which is common in the social sciences, requires that participants share the questionnaire (link) with other individuals. This allows for data collection in a short amount of time, and it is effective for surveys in a rapidly changing environment like the Covid pandemic [71]. Specifically, over 40 Facebook groups dealing with wine, food and travel were involved, jointly with actors from the Italian wine sector, to target the segments of interest despite the extraordinary circumstances of the Covid-19 pandemic. Data collection took place in Italy between June and July 2020. We collected 515 questionnaires, but retained only complete ones from wine tourists, restricting the final sample to 408 valid observations. The present study considered wine tourists as people who visited a wine-producing region and/or participated in a wine festival in the last three years before the pandemic. For this purpose, we adapted the statement from Brown et al. [35]. To the best of our knowledge, there is no unique definition of wine tourist in the literature. Therefore, in this paper we considered a broader group than cellar door visitors (who are generally considered wine

tourists) by selecting people who recently engaged with wine-related events, visits to wine festivals, and wine holidays. This choice allowed us to collect reliable data from consumers who are potentially interested in this new service, i.e. online wine tourism, and thus constitute an eligible target market.

The survey investigates the following questions and factors: socio-demographics, wine digitalisation, willingness to support local wineries (SUPLOCW), involvement with wine (WI), covid phobia (CPH), future wine tourism intentions (FUTWTINT), and interest in online wine tourism experiences (INTOWE).

More specifically, WI is captured through an adapted version WI scale by Brown et al. [35], referring to ego-involvement. In particular, the Exploratory Factor Analysis (EFA) and Reliability analysis (Cronbach's alpha) are run on each scale separately, with principal component as extraction method and oblique rotation. EFA results on the WI scale led to dropping the 6 items representing symbolic centrality as, alike previous studies [35], they were not consistent with the rest of the scale. Reliability statistics restrict the final scale to 7 items, which were measured on a 7-point Likert scale where 1 = totally disagree and 7= totally agree (Cronbach's alpha = .96).

Fear and anxiety towards Covid (hereafter referred to as CPH) are captured through an adapted version of C19P-S from Arpaci et al. [59]. Mainly, this paper includes the psychological and social dimensions of the original C19P-S (Cronbach's alpha = .91) to assess the impact of Covid-related fear and anxiety on the individual interest in online wine experiences (INTOWE). The latter dimension is particularly relevant as travelling is a social activity implying several and often uncontrolled social interactions, the primary source of infection. Based on Cronbach's alpha, one extra item was dropped, and the final CPH scale includes five items measured on a 7-points Likert scale (1 = totally disagree; 7 = totally agree).

Future wine tourism intentions (FUTWTINT) are captured through a single item adapted from Sparks [34] and measuring the willingness to take a wine trip in a future holiday on a 7-points agree-disagree Likert scale.

Interest in online wine tourism experiences (INTOWE) is also measured through two 7-points Likert scale items (1 = totally disagree to 7= totally agree), capturing interest the most common types of online wine experiences (i.e., wine tastings – INTOWE1, and food and wine events – INTOWE2).

Finally, one item measured on a 7-points Likert scale (1 = totally disagree, 7= totally agree) captures the willingness to support local wineries by partaking in wine tourism (SUPLOCW).

### 3.3 Descriptive statistics of the sample

As described in Table 1, men and women are almost equally represented within the sample. The respondents are mainly aged between 30-50 (55%), and all age groups are adequately represented in the sample except the over 60s (7%), presumably because data collection primarily relied on social media. In line with past research [72, 73], most respondents are highly educated, and have a university degree (49%). Moreover, the average family income is either sufficient (48%) or good (43%), highlighting that most of the respondents enjoy an either acceptable or good economic situation. Half of the sample is either married or in a couple. The level of digitalisation is remarkable, with over half of the sample (52%) having an app dedicated to wine or wine tourism on their smartphone (WAPP), and a relevant share (45%) buying wine online (BUYWONLINE). The level of involvement with wine (WI) is rather high, albeit close to the mean value of the scale (sample mean = 5). Both future intentions to partake in wine tourism (FUTWTINT) and the willingness to support local wineries (SUPLOCW) record significant mean ratings (both around 6). Interestingly, fear and anxiety towards Covid (CPH) and interest in online wine tourism experiences (INTOWE) show low mean values (3.6 and 3, respectively).

## 4. RESULTS

As regards the measurement model, EFA confirmed the items of the 3 latent constructs load on different factors. The two items of the INTOWE scale are significantly correlated between them [ $r = 0.84$ ; 71], while being uncorrelated with all other items in the MM. Table 2 shows the results of the CFA on the whole sample. Construct Reliability (CR) and Average Variance Extracted (AVE) are above the recommended thresholds for all latent constructs [70, 75], and all the standardised factor loadings are significant and above the ideal threshold (0.7). Therefore, convergent validity for each scale is confirmed. Discriminant validity is supported by AVE exceeding inter-construct correlations [70].

Single item measures like SUPLOCW and FUTWTINT are included in the model as latent constructs measured by one item in order to account for measurement error. Notably, factor loading is fixed at the square root of 1 minus the best guess reliability (0.85), and error variance is computed subtracting the best-guess reliability to 1 [70]. Diversely, age, gender, and wine digitalization (BUYWONLINE; WAPP) are treated as

**Table 1** Descriptive statistics of the sample (n=408).

	Frequency	%		Frequency	%				
<b>Age (years)</b>	18-29	74	18.1						
	30-40	121	29.7						
	41-50	102	25.0						
	51-60	82	20.1						
	≥61	29	7.1						
<b>Education</b>	High school	12	2.9						
	College	127	31.1						
	University	198	48.5						
	PostGraduate	71	17.4						
<b>Gender</b>	Males	191	46.8						
	Females	217	53.2						
<b>Marital Status</b>	Married-cohabiting	107	26.2						
	Single	139	34.1						
	In a couple	96	23.5						
	Separated-divorced	57	14						
	Widowed	7	1.7						
	Other	2	0.5						
<b>Income</b>	Insufficient	3	0.7						
	Just sufficient	34	8.3						
	Sufficient	194	47.5						
	Good	177	43.4						
			<b>WAPP</b>						
			No	197	48.3				
			Yes	211	51.7				
			<b>BUYWONLINE</b>						
			No	225	55.1				
			Yes	183	44.9				
					<b>Mean</b>				
					<b>St.Dev</b>				
			<b>WI</b>	5.2	1.65				
			<b>CPH</b>	3.6	1.66				
			<b>INTOWE</b>	3.0	1.39				
		<b>Strongly disagree</b>				<b>Strongly agree</b>	<b>Mean</b>	<b>St.Dev.</b>	
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	
<b>FUTWTINT</b>	0.7	1.5	2	6.6	8.8	16.2	64.2	6.3	1.23
<b>SUPLOCW</b>	1.2	1.7	3.7	9.3	15.4	18.9	49.8	5.9	1.39

observed variables. As regards INTOWE, a composite score of the two items is computed (parcel) and used as indicator of this construct with factor loading fixed at 1 and error variance calculated as follows:

$$\theta\epsilon = (1-\alpha) \times s^2$$

where  $\alpha$  represents the construct reliability for INTOWE and  $s^2$  is the observed variance of the composite score [76]. Goodness-of-fit (GOF) of the MM is evaluated through Root Mean Square Error of Approximation (RMSEA) and Standardised Root Mean Residual (SRMR) for absolute fit, and Tucker Lewis Index (TLI) and Comparative Fit Index (CFI) for incremental fit. Overall GOF of the MM is acceptable ( $\chi^2(408) = 494.47$ ;  $df = 111$ ;  $p < 0.001$ ;  $\chi^2/df = 4.4$ ;  $RMSEA = .09$ ;  $CFI = .92$ ;

$TLI = .90$ ;  $SRMR = .05$ ). According to Hair et al. [68], the significance of  $\chi^2$  is expected due to both the large sample size ( $n = 408$ ) and number of observed variables ( $m = 22$ ). RMSEA is also acceptable [77].

The structural model (SM) is presented in Figure 1. GOF indices suggest an overall good fit ( $\chi^2(408) = 389.33$ ;  $df = 130$ ;  $p < .001$ ;  $\chi^2/df = 2.99$ ;  $RMSEA = .07$ ;  $CFI = .95$ ;  $TLI = .93$ ;  $SRMR = .05$ ) and the model explains 22% of the variance of INTOWE and 49% of FUTWTINT. Results highlight that interest in online wine tourism experiences is positively affected by gender. Specifically, female respondents seem to be more interested in online wine experiences than male ones ( $\beta = .11$ ;  $p = .03$ ). Respondent's familiarity with digital wine tools also emerged as a significant antecedent (H7:  $\beta = .12$ ,  $p = .03$ ; H8:  $\beta = .13$ ;  $p = .02$ ). Unexpect-



**Table 2.** Factor loadings and reliability of the measurement model.

	Factor loading <sup>a</sup>	Average Variance extracted (AVE) <sup>b</sup>	Construct Reliability (CR) <sup>c</sup>
<i>Fear and Anxiety towards Covid (CPH)</i>			
CPH1	0.90	82.8%	0.95
CPH2	0.84		
CPH3	0.86		
CPH4	0.82		
CPH5	0.75		
<i>Involvement with wine (WI)</i>			
WI1	0.83	73.2%	0.95
WI2	0.89		
WI3	0.89		
WI4	0.90		
WI5	0.87		
WI6	0.85		
WI7	0.76		

Note: <sup>a</sup> Based on standardised regression weights from AMOS. <sup>b</sup> AVE was computed based on the formula from Hair et al. [68] as an indicator of convergent validity. <sup>c</sup> CR was computed based on Hair et al. [68].

edly, the effect of age on INTOWE is not significant ( $\beta = -.04$ ;  $p = .44$ ). WI represents a significant predictor of both future wine tourism intentions (H2;  $\beta = .62$ ;  $p < .001$ ) and INTOWE, although the effect on the latter is smaller in size (H1:  $\beta = .22$ ;  $p = .003$ ). Interestingly, FUTWTINT does not significantly predict INTOWE (H9:  $\beta = .05$ ;  $p = .47$ ), while the direct effect of fear and anxiety towards the virus (CPH) is significantly positive (H5:  $\beta = .18$ ;  $p < .001$ ). Instead, CPH does not mediate the relationship between FUTWTINT and INTOWE since the indirect effect between the two variables is not significant (H6:  $\beta = .05$ ;  $p = .22$ ). Finally, willingness to support local wineries (SUPLOCW) has a significant positive effect on both INTOWE (H3:  $\beta = .12$ ;  $p = .02$ ) and FUTWTINT (H4:  $\beta = .20$ ;  $p < .001$ ).

**Table 3** Correlation matrix.

	INTOWE	CPH	WI	WTINT	SUPLOCW
INTOWE	3.0 (1.89)				
CPH	0.195	3.6 (1.66)			
WI	0.376	0.024	5.2 (1.65)		
WTINT	0.312	0.064	0.669	6.3 (1.23)	
SUPLOCW	0.153	0.055	0.069	0.261	5.9 (1.39)

Note: Mean (Std. Deviation) of each variable are reported in the diagonal.

## 5. DISCUSSION AND CONCLUSIONS

This exploratory study provides relevant information for a better understanding of people's interest in online wine tourism experiences, which has become a strategic tool for wineries in times of pandemic. In the last decade, wine tourism gained increasing relevance for Italian wine regions, but recently the Covid outbreak jeopardised its dynamics, pushing its actors (e.g., wineries) to find alternative solutions to overcome the new barriers. The digitalisation of wine tourism experiences is one of these solutions. Nevertheless, designing similar experiences requires the proper infrastructure and knowledge of virtual platforms and video making, and financial investments to adopt this innovation. Therefore, there is an urge to explore the extent to which interest in such experiences is driven by context-dependent factors, and if there is potential for future developments. In the latter case, online wine experiences can become a strategic marketing and communication tool for wineries and wine regions to enhance their visibility.

Although other attempts have been made to explore wine consumers' perception of online wine tastings [78], this paper is among the first to examine the determinants of online wine tourism attractiveness based on an extensive sample of wine tourists. Therefore, its findings provide interesting hints for both actors of the wine sector and policymakers.

Descriptive statistics reveal that the profile of the wine tourists in our sample, mainly women, highly educated and with a good income level, is in line with other studies [19, 72, 79, 80, 81, 82, 83]. As for the involvement with wine, it is above the average but not remarkably high, stressing the point that wine tourists are not necessarily wine lovers [20].

While future wine tourism intentions (FUTWTINT) are strong, the average interest in online wine tourism in the analysed sample is lower. A plausible explanation to this latter evidence can be the fact that online wine tourism experiences represented an innovative product at the time of data collection, namely the timeframe immedi-

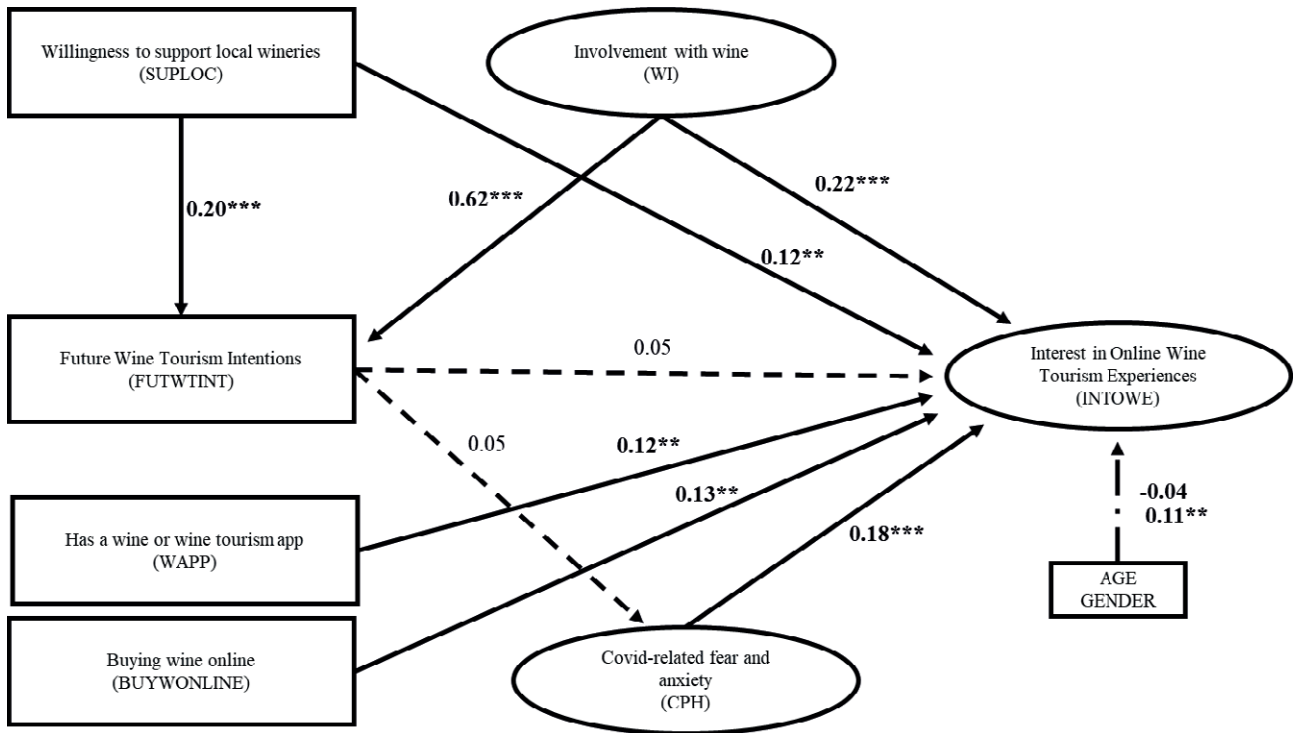


Figure 1. Results of the SEM analysis. Note: \*\*\* p < .01; \*\* p < .05.

ately after the so-called “first wave” of Covid infection in Italy (from March 2020 to May 2020). Due to this, it would be interesting to collect new data to explore how the wine tourists’ interest towards such innovative products has evolved with the progress of the pandemic.

The primary result from this pioneering study is that the interest in online wine tourism experiences (INTOWE) is apparently affected by several factors, and not all of them are related to the context of the pandemic. Notably, interest in online wine tourism is the result of a combination between general fear and anxiety of the virus (CPH) and a long-lasting involvement with wine (WI). Indeed, although WI shows a greater effect on FUTWTINT, it also constitutes the major antecedent of INTOWE among those analysed.

Surprisingly, the effect of FUTWTINT on INTOWE is not significant, meaning that the interest in joining an online wine tourism experience like an online wine tasting is not necessarily consequent to the individual willing to go on a wine holiday in the near future. Moreover, the relationship between the two constructs is not mediated by Covid-related fear and anxiety (CPH). This result reveals that interest in virtual wine tastings and oenogastronomic events does not arise in substitution of conventional wine tourism when a greater fear and anxiety of Covid-19 is present.

Since INTOWE is predicted by WI but is not a result of FUTWTINT (i.e., intention to visit a wine region in a future holiday), online wine tourism products may attract involved wine consumers who are not (yet) regular wine tourists, and the two activities may be seen as two separate products by consumers. Future analyses should segment virtual wine experiences consumers based on their personal involvement with wine to explore potential group differences in their intentions and behaviour towards OWEs, the winery offering the experience, and the related wine region.

As previously reported, CPH also directly impacts INTOWE with an effect size comparable to WI. This effect can reasonably be linked to a higher perceived safety connected to online experiences since the Covid-19 outbreak, especially in light of the negative effect of Covid-19 fear and anxiety emerging in tourism-related studies referring to conventional travels [e.g. 5]. Variables referring to wine digitalisation (WAPP and BUYWONLINE) have a significant impact on INTOWE, confirming that being familiar with wine-related digital tools significantly increases interest in online wine tourism. This finding suggests wine apps may be an effective channel to advertise online wine tourism experiences and target potential consumers. In this respect, age does not seem to play a significant role, while gender differ-

ences are present. Finally, willingness to support local wineries predicts both FUTWTINT and INTOWE. The latter constitutes an encouraging signal for wine tourism stakeholders, who might emphasise this aspect in their communication strategies to improve their effectiveness.

Results of the present study refer exclusively to online wine tastings and oeno-gastronomic experiences, while virtual wine tours seem to constitute a separate subject and represent an interesting topic for future research. As previously mentioned, new data could assess changes in the relevance of context-related antecedents with the pandemic's evolution.

The choice of snowball sampling has been widely applied to tourism and social science studies [84, 85], and like Villacé-Molinero et al. [86] is deemed the appropriate technique in light of the urge to collect data on a rapidly evolving phenomenon under unprecedented circumstances (i.e., the Covid-19 pandemic). However, it comes with limitations such as self-selection bias, over-representation of subgroups having similar characteristics [87], and thus lack representativeness. In this study, data have been collected online through social media and via email to personal contacts, with no compensation for respondents: this feature may have led to pre-selecting respondents who are familiar with digital tools and are interested in the topic. As a consequence, respondents' age in our sample is slightly skewed towards younger wine tourists. The large sample size and the socio-demographical diversity of respondents contribute to overcoming these limitations, although further research is needed to assess the generalisability of our findings.

To sum up, our exploratory study suggests the presence of both a long- and short- term motivational force behind the interest in online wine tourist experiences, which is not exclusively driven by fear of the virus but is also connected to long-term product involvement. Therefore, the study leaves room for future developments in the online wine experiences market. It also suggests this kind of product should not be seen as a substitute for regular wine tourism but rather as a marketing tool to keep connections with existing consumers alive or attract new ones. Indeed, online wine tourism experiences can bring several advantages for wineries: first, they can overcome spatial barriers, reach a broader audience of potential consumers, and boost the international diffusion of wine and wine regions. Second, unlike other digital marketing actions, they preserve the possibility to establish direct contact with the final consumer as happens with in-presence visits. Finally, virtual wine tourism activities can also be provided during the low season, thus becoming a tool to attract tourists during the pre-decisional and pre-actional stages of travelling [88]. In the latter case,

the benefits of online wine experiences can extend to the whole destination.

With this in mind, the actors of the wine tourism sector should try to implement and promote an offer of virtual wine tastings and food and wine events having a long-term perspective in view. Indeed, online wine experiences offer greater opportunities than just allowing to cope with Covid restrictions. On their end, policymakers could facilitate farmers to overcome the objective technological boundaries characterising the sector, both at a national and firm-level. Particularly, both financial and technical support are crucial to implement broadband infrastructures, jointly with specialised training for wineries and small-medium wine tourism enterprises (e.g., farms), to level up their digitalisation. Wineries' digitalisation and proximity tourism, intended as travels close to tourists' place of residence, are indeed two significant steps fuelled by Covid-19 that can have considerable repercussions on future sector dynamics, especially for pursuing sustainability goals.

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