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

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, have revealed the sector's susceptibility [1]. Accordingly, in 2020 the United Nations World Tourism Organization (UNWTO)[1] reported that within a very short time, 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, 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 for during the lockdown phase, Italian wine tourists were allowed to circulate within the country. Moreover, 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

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[1] UNWTO (2021). https://www.unwto.org/covid-19-and-tourism-2020

wine production), where almost 50% of tourists in 2019 were travelling from other countries [4]. International tourism flows, though, have been jeopardised by the Covid-19 outbreak. The pandemic prompted the diffusion of fear and anxiety among the population [5,6,7], which have notably 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]. According to a recent study by Garibaldi et al. [9], 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. In Italy, 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 remainder of 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,

100 while the following sections describe data and methods (second section), the results (third section),

101 and the discussion and conclusions (last section).

102

2. The Covid outbreak and the main antecedents of wine tourism intentions

104 Over the last decades, wine tourism has become an important segment of the wine industry [12, 13]. Wine

105 tourism experiences are indeed strategic marketing tools for wineries to establish a direct relationship with

106 consumers (and customers), also at international level, gaining long-term benefits in terms of wine sales,

107 customer education and loyalty creation [14, 15, 16]. Also, wine can be an essential way of presenting the

108 identity and local culture of many destinations [17], and wine tourism can contribute to a wine region's

109 economic development [18].

110 The Covid-19 outbreak has caused significant impediments to both wineries (e.g., limiting their

111 operating space) and wine tourists, who were impacted physically (e.g., the pandemic prevented wine

112 tourists from travelling) and psychologically. Therefore, virtual (wine) experiences started to spread

113 in this extraordinary context, representing an essential tool for wine tourism stakeholders.

114 Intended as virtual tours of the winery, wine tastings, and food and wine events, virtual wine

115 experiences imply consumers' engagement with wine and winemaking. For this reason, they fall

116 under the definition of wine tourism [19]. According to the literature, people partaking in wine

117 tourism activities are also involved with the product and presumably possess a pre-existing intention

118 to go on a wine holiday. Traditional wine tourism activities are enjoyed by tourists looking for an

119 immersive activity and with the broader aim to experience the wine region as a whole, including

120 landscape traditions, culture, and heritage [2, 20].

121 Accordingly, the literature generally identifies wine tourists as a heterogeneous group of people

122 pursuing the full enjoyment from different aspects of a wine tourism experience [12, 21], and

123 characterised by a different level of involvement with wine [22, 23].

124 The following paragraphs provide an overview of the main antecedents of wine tourism intention and

125 factors that can impact the interest in online wine tourism experiences. Based on this, we present the

126 hypotheses that the study intends to test: for example, our path model involves testing the effect of

127 some variables on both the interest in online wine tourism and future wine tourism intentions.

128 Moreover, due to the pandemic's extraordinary circumstances, we test some hypotheses for

129 exploratory purposes, as in the case of the role of fear and anxiety linked to Covid-19 in (wine) travel

130 intentions.

131

2.1 Profile of wine tourists

133 Hall et al. [14], who cite Johnson [24, p. 19], report that wine tourists are "visitors to vineyards,

134 wineries, wine festivals, and wine shows for the purpose of recreation". As highlighted in past studies

135   [12, 20, 22], wine tourists possess a certain level of knowledge about wine. However, they are mainly

136   wine consumers looking for pleasant and relaxing sensations to fulfil a total experience in the so-

137   called "winescape" – that is "the place where wine tourism activities take place" [20]. Also, they are

138   characterised by the need to connect with the origin of the product and visiting the wine region where

139   a specific wine is produced [25]. Wine tourism represents a social leisure activity [2, 26, 27, 28], as

140   tourists who engage in this are often accompanied by other people (e.g., spouse, partner, family

141   members, close friends) [22, 29]. Among others, gender, age, education, wine consumption habits,

142   financial status, lifestyle, motivation, and involvement are relevant to characterise wine tourists [14,

143   25, 28]. However, scholars realised that other details are relevant to better profile wine tourists, such

144   as demographic factors, and the psychographic profile [14].

145

2.2 Involvement with wine

147   The literature extensively reported that one of the main antecedents of wine tourism intentions is the

148   product involvement, or involvement with wine (WI) [30, 31]. The concept of involvement refers to

149   "a person's perceived relevance of an object based on inherent needs, values, and interests" [32, p.

150   342]. For leisure activities as wine tourism, it is appropriate to consider ego-involvement, i.e., the

151   "unobservable state of motivation, arousal or interest toward a recreational activity or associated

152   product, evoked by a particular stimulus or situation, and which has drive properties" [33, p. 216].

153   Indeed, Sparks [34] argued that ego-involvement might play a key role, acting as a motivator in wine

154   tourism.

155   Brown et al. [35] further conceptualised ego-involvement in wine tourism in a wine involvement

156   (WI) scale, that is a 3-dimensional tool embodying symbolic centrality, enjoyment, and expertise,

157   adapted from the Consumer Involvement Profile scale by Laurent and Kapferer [36].

158   Furthermore, Zatori et al. [37] developed the concept of experience-involvement for referring to the

159   real-time involvement while undergoing a given experience. In fact, the most powerful phase in the

160   formation of the tourist experience is the on-site experience, as some experiences might be highly

161   involving and unleash positive emotions. As regards the consumer research field, scholars have found

162   that involvement with certain activities or products also increases involvement with the related

163   services [38, 39]. Furthermore, previous studies have demonstrated the positive relationship between

164   product involvement and destination image [38, 40]. Additionally, WI affects consumers motivations,

165   the perceived importance of wine sensory characteristics like bouquet and appearance [41] as well as

166   residents perceived the relevance of local production [42]. Since wine tourism activities revolve

167   around wine tastings, it follows that WI is paramount to the sector. Coherently, involvement is of

168   particular importance for hedonic products like wine, which consumption is complex and entails

169 cognitive, affective and sensory dimensions that may assume a different relevance based on personal
170 involvement levels [43].

171 Given the above and following the literature, wine product involvement may directly or indirectly
172 affect consumers' wine tourism intentions [40, 44, 45], influencing their perception of the destination
173 and positively impacting on potential future travel intentions [38]. Since WI is largely recognised as
174 one of the main drivers of wine tourism intention, focusing on both the interest in online wine tourism
175 experiences and future wine tourism intention, we test the following hypotheses:

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

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

178

179 **2.3 Willingness to support local wineries**

180 The Covid-pandemic and the resulting socio-economic crisis have potentially induced people to
181 become more sensitive to society's problems [46]. Therefore, willingness to support local wine
182 producers may play a role in making wine tourists inclined to both online and offline wine tourism
183 intentions. Several studies [47, 48, 49] highlight how consumers often perceive locally produced food
184 or buying directly from the farmer (e.g., direct selling at the farm) as a means to support local farmers
185 and communities. In this sense, tourists contribute to the value creation and economic sustainability
186 of the territories [50]. In line with this, several authors [51, 52] argue that the direct interaction
187 between producers and consumers creates or reinforces sentiments of trust and mutual regard, leading
188 to a sense of commitment and solidarity. In this sense, tourists can concretely support the local
189 producers. In this context, online wine tourism experiences can be practical tools when in-person
190 meetings are not possible and/or challenging to achieve, as during the pandemic. The desire to support
191 a winery during the pandemic might thus arise from a pre-existing interaction with the winery, since
192 the product experience is a fundamental component of loyalty to a brand [53].

193 Moreover, the literature highlights that developing experiences that combine oeno-gastronomic
194 traditions in wine tourism destinations generate positive emotions [9, 54], and create a sense of
195 familiarity [55]. Familiarity is, indeed, the result of previous experiences (experiential familiarity),
196 the extent of information used (informational familiarity), and how people self-perceive their
197 familiarity with a place (self-rated familiarity), and it is affected by the perceived quality of a tourism
198 experience [56]. According to Baloglu [57], building an emotional connection with a place can
199 influence future behavioural intentions (i.e., future wine tourism visits). After the visit, online wine
200 tourism experiences can help wine tourism actors (producers or wineries) build long-term
201 relationships with their customers through long-distance actions that trigger trust and destination
202 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 psychological discomforts: these are due, among other things, 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].

In this regard, 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]. Nevertheless, 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 highlights 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]. 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, these consumers are reasonably more motivated to participate in an online wine tourism experience, and we postulate as follows:

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 the Structural Equation Model (SEM), as 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. 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]. 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 effect 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 social networks and world of mouth snowball sampling. 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], who consider a 5-year timespan, while restricting it to avoid the two years of mobility and operational barriers caused by Covid-19. 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 or 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.

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).

305 More specifically, WI is captured through an adapted version WI scale by Brown et al. [35], referring

306 to ego-involvement. In particular, the Exploratory Factor Analysis (EFA) and Reliability analysis

307 (Cronbach's alpha) are run on each scale separately, with principal component as extraction method

308 and oblique rotation. EFA results on the WI scale led to dropping the 6 items representing symbolic

309 centrality as, in line with previous research [35], they were not consistent with the rest of the scale.

310 Reliability statistics restrict the final scale to 7 items, which were measured on a 7-point Likert scale

311 where 1 = totally disagree and 7= totally agree (Cronbach's alpha = .96).

312 Fear and anxiety towards Covid (hereafter referred to as CPH) are captured through an adapted

313 version of C19P-S from Arpaci et al. [59]. Mainly, this paper includes the psychological and social

314 dimensions of the original C19P-S (Cronbach's alpha = .91) to assess the impact of Covid-related fear

315 and anxiety on the individual interest in online wine experiences (INTOWE). The latter dimension is

316 particularly relevant as travelling is a social activity implying several and often uncontrolled social

317 interactions, the primary source of infection. Based on Cronbach's alpha, one extra item was dropped,

318 and the final CPH scale includes five items measured on a 7-points (1 = totally disagree; 7 = totally

319 agree) Likert scale.

320 Future wine tourism intentions (FUTWTINT) are captured through a single item adapted from Sparks

321 [34] and measuring the willingness to take a wine trip in a future holiday on a 7-points agree-disagree

322 Likert scale.

323 Interest in online wine tourism experiences (INTOWE) is measured through two 7-points Likert scale

324 type items (1 = totally disagree to 7= totally agree), capturing interest the most common types of

325 online wine experiences (i.e., wine tastings – INTOWE1, and food and wine events – INTOWE2).

326 Finally, one item measured on a 7-points Likert scale (1 = totally disagree, 7= totally agree) captures

327 the willingness to support local wineries by partaking in wine tourism (SUPLOCW).

328

329 **3.3 Descriptive statistics of the sample**

330 As described in Table 1, men and women are almost equally represented within the sample. The

331 respondents are mainly aged between 30-50 (55%), and all age groups are adequately represented in

332 the sample except the over 60s (7%), presumably because data collection primarily relied on social

333 media. In line with past research [72, 73], most respondents are highly educated, and have a university

334 degree (49%). Moreover, the average family income is either sufficient (48%) or good (43%),

335 highlighting that most of the respondents enjoy a good economic situation. Half of the sample is

336 either married or in a couple. The level of digitalisation is remarkable, with over half of the sample

337 (52%) having an app dedicated to wine or wine tourism on their smartphone (WAPP), and a relevant

338 share (45%) buying wine online (BUYWONLINE). The level of involvement with wine (WI) is

339   rather high, albeit not remarkably (mean value = 5). Both future intentions to partake in wine tourism

340   (FUTWTINT) and the willingness to support local wineries (SUPLOCW) record significant mean

341   ratings (both around 6). Interestingly, both fear and anxiety towards Covid (CPH) and interest in

342   online wine tourism experiences (INTOWE) show low mean values (3.6 and 3, respectively).

343

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

	frequency	%			frequency	%
Age			**WAPP**			
18-29	74	18.1		No	197	48.3
30-40	121	29.7		Yes	211	51.7
41-50	102	25.0	**BUYWONLINE**			
51-60	82	20.1		No	225	55.1
≥61	29	7.1		Yes	183	44.9
Education						
High school	12	2.9			**Mean**	**St.Dev**
College	127	31.1	**WI**		5.2	1.65
University	198	48.5	**CPH**		3.6	1.66
PostGraduate	71	17.4	**INTOWE**		3.0	1.39
Gender						
Males	191	46.8				
Females	217	53.2				
Marital Status						
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				
Income						
Insufficient	3	0.7				
Just sufficient	34	8.3				
Sufficient	194	47.5				
Good	177	43.4				

	Strongly disagree						Strongly agree	Mean	St.Dev.
	1	2	3	4	5	6	7		
FUTWTINT	0.7	1.5	2	6.6	8.8	16.2	64.2	6.3	1.23
SUPLOCW	1.2	1.7	3.7	9.3	15.4	18.9	49.8	5.9	1.39

345

346

4. Results

348   As regards the measurement model, EFA confirmed the items of the 3 latent constructs load on

349   different factors. The two items of the INTOWE scale are significantly correlated between them [r =

350   0.84; 71], while being uncorrelated with all other items in the MM. Single item measures FUTWTINT

351   and SUPLOCW are included in the model as single-item latent constructs with 0.85 best-guess

352   reliability [70]. Table 2 shows the results of the CFA on the whole sample. Construct Reliability (CR)

353   and Average Variance Extracted (AVE) are above the recommended thresholds for all latent

354   constructs [70, 75], and all the standardised factor loadings are significant and above the ideal

355   threshold (0.7). Therefore, convergent validity for each scale is confirmed. Discriminant validity is

356   supported by AVE exceeding inter-construct correlations [70].

357

358   Table 2 Factor loadings and reliability of the measurement model

	Factor loading [a]	Average Variance extracted (AVE)[b]	Construct Reliability (CR)[c]
Fear and Anxiety towards Covid (CPH)			
PSYC1	0.90	82.8%	0.95
PSYC2	0.84		
PSYC3	0.86		
SOC1	0.82		
SOC2	0.75		
Involvement with wine (WI)			
ENJ3	0.83	73.2%	0.95
ENJ2	0.89		
ENJ1	0.89		
EXP1	0.90		
EXP2	0.87		
EXP3	0.85		
EXP4	0.76		

359   *Note: [a] Based on standardised regression weights from AMOS. [b] AVE was computed based on the formula from Hair et*
360   *al. [68]as an indicator of convergent validity. [c] CR was computed based on Hair et al. [68].*
361

362   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)

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

364

365   Single item measures like SUPLOCW and FUTWTINT are included in the model as latent constructs

366   measured by one item in order to account for measurement error. Notably, factor loading is fixed at

367   the square root of 1 minus the best guess reliability (0.85), and error variance is computed subtracting

368   the best-guess reliability to 1 [70]. As regards INTOWE, a composite score of the two items is

369   computed (parcel) and used as indicator of this construct with factor loading fixed at 1 and error

370   variance calculated as follows:

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

372   where α represents the construct reliability for INTOWE and s^2 is the observed variance of the

373   composite score [76]. Goodness-of-fit (GOF) of the MM is evaluated through Root Mean Square

374   Error of Approximation (RMSEA) and Standardised Root Mean Residual (SRMR) for absolute fit,

375   and Tucker Lewis Index (TLI) and Comparative Fit Index (CFI) for incremental fit. Overall GOF of

376   the MM is acceptable ($\chi2$ (408) = 494.47; df = 111; p < 0.001; $\chi2$/df = 4.4; RMSEA = .09; CFI = .92;

377   TLI = .90; SRMR = .05). According to Hair et al. [68], the significance of $\chi2$ is expected due to both

378   the large sample size (n = 408) and number of observed variables (m = 22). RMSEA is also acceptable

379   [77].

380 The structural model (SM) is presented in Figure 1. GOF indices suggest an overall good fit (χ2 (408)

381 = 389.33; df = 130; p < .001; χ2/df = 2.99; RMSEA = .07; CFI = .95; TLI = .93; SRMR = .05) and

382 the model explains 22% of the variance of INTOWE and 49% of FUTWTINT. Results highlight that

383 interest in online wine tourism experiences is positively affected by gender. Specifically, female

384 respondents seem to be more interested in online wine experiences than male ones (β = .11; p = .03).

385 Respondent's familiarity with digital wine tools also emerged as a significant antecedent (H7: β =

386 .12, p = .03; H8: β = .13; p = .02). Unexpectedly, the effect of age on INTOWE is not significant (β

387 = - .05; p = .44). WI represents a significant predictor of both future wine tourism intentions (H2; β

388 = .62; p < .001) and INTOWE, although the effect on the latter is smaller in size (H1: β = .22; p =

389 .003). Interestingly, FUTWTINT does not significantly predict INTOWE (H9: β = .05; p = .47), while

390 the direct effect of fear and anxiety towards the virus (CPH) is significantly positive (H5: β = .18; p

391 < .001). Instead, CPH does not mediate the relationship between FUTWTINT and INTOWE since

392 the indirect effect between the two variables is not significant (H6: β = .01; p = .22). Finally,

393 willingness to support local wineries (SUPLOCW) has a significant positive effect on both INTOWE

394 (H3: β = .12; p = .02) and FUTWTINT (H4: β = 20.0; p < .001).

395

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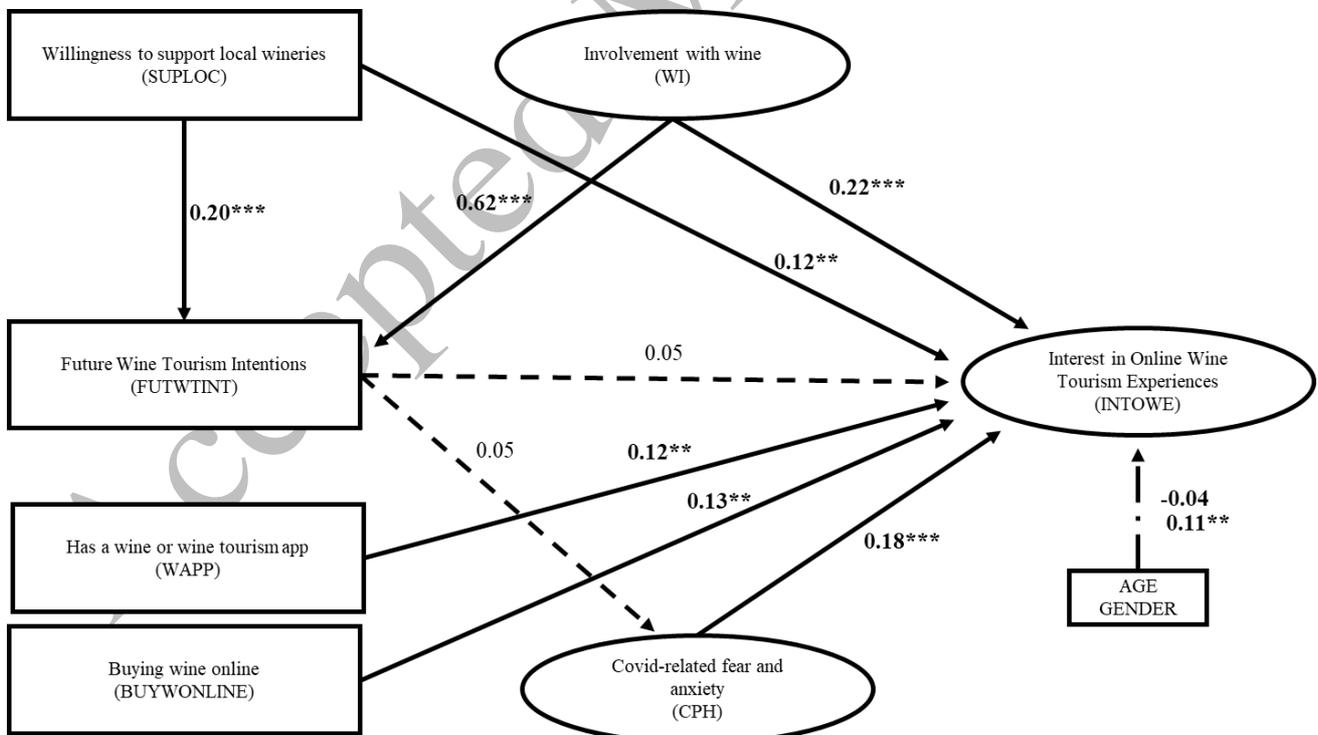
398 *Note: *** p < .01; ** p < .05.*

399

400

401 **5. Discussion and conclusions**

This 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 the 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 [e.g., 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. In our opinion, this latter evidence can be explained by the fact that online wine tourism experiences represented an innovative product at the time of data collection, namely the timeframe immediately after the so-called "first wave" of Covid infection (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

436 to the individual willing to go on a wine holiday in the near future. Moreover, the relationship between

437 the two constructs is not mediated by Covid-related fear and anxiety (CPH). This result reveals that

438 interest in virtual wine tastings and oeno-gastronomic events does not arise in substitution of

439 conventional wine tourism when a greater fear and anxiety of Covid-19 is present.

440 Since INTOWE is predicted by WI but is not a result of FUTWINT (i.e., intention to visit a wine

441 region in a future holiday), online wine tourism products may attract involved wine consumers who

442 are not (yet) regular wine tourists, and the two activities may be seen as two separate products by

443 consumers. Future analyses should segment virtual wine experiences consumers based on their

444 personal involvement with wine to explore potential group differences in their intentions and

445 behaviour towards OWEs.

446 As previously reported, CPH also directly impacts INTOWE with an effect size comparable to WI.

447 This effect can reasonably be linked to a higher perceived safety connected to online experiences

448 since the Covid-10 outbreak, especially in light of the negative effect of Covid-19 fear and anxiety

449 emerging in tourism-related studies referring to conventional travels [e.g. 5]. Variables referring to

450 wine digitalisation (WAPP and BUYWONLINE) have a significant impact on INTOWE, confirming

451 that being familiar with wine-related digital tools significantly increases interest in online wine

452 tourism. This finding suggests wine apps may be an effective channel to advertise online wine tourism

453 experiences and target potential consumers. In this respect, age does not seem to play a significant

454 role, while gender differences are present. Finally, willingness to support local wineries predicts both

455 FUTWTINT and INTOWE. The latter constitutes an encouraging signal for wine tourism

456 stakeholders, who might emphasise this aspect in their communication strategies, to improve their

457 effectiveness.

458 Results of the present study refer exclusively to online wine tastings and oeno-gastronomic

459 experiences, while virtual wine tours seem to constitute a separate subject and represent an interesting

460 topic for future research. As previously mentioned, new data could assess changes in the relevance

461 of context-related antecedents with the pandemic's evolution.

462 The choice of snowball sampling has been widely applied to tourism and social science studies [84,

463 85], and like Villacé-Molinero et al. [86] is deemed the appropriate technique in light of the urge to

464 collect data on a rapidly evolving phenomenon under unprecedented circumstances (i.e., the Covid-

465 19 pandemic). However, it comes with limitations such as self-selection bias, over-representation of

466 subgroups having similar characteristics [87], and thus lack representativeness. In this study, data

467 have been collected online through social media and via email to personal contacts, with no

468 compensation for respondents: this feature may have led to pre-selecting respondents who are familiar

469 with digital tools and are interested in the topic. As a consequence, respondents' age in our sample

may be 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 instead 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 potential visitors. 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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