How has COVID-19, lockdown and social distancing changed alcohol drinking patterns? A cross-cultural perspective between britons and spaniards

Heber Rodrigues [a,*], Dominique Valentin [b], Ernesto Franco-Luesma [c], Vonimihaingo Ramaroson Rakotosamimanana [d], Carlos Gomez-Corona [e], Erick Saldaña [f], María-Pilar Sáenz-Navajas [g]

[a] *Plumpton College, UK Centre for Excellence in Wine Education, Training and Research, Ditchling Road, Brighton BN7 3AE, East Sussex, United Kingdom*
[b] *Centre des Sciences du Goût et de l'Alimentation, AgroSup Dijon, CNRS, INRAE, Université Bourgogne Franche-Comté, F-21000 Dijon, France*
[c] *Department of Chemistry, Universidad de La Rioja, Logroño, La Rioja, Spain*
[d] *Laboratoire d'Analyse Sensorielle, FOFIFA Ambatobe, Antananarivo, Madagascar*
[e] *XOC Estudio, Mexico City, Mexico*
[f] *Facultad de Ingeniería Agroindustrial, Universidad Nacional de Moquegua (UNAM), Calle Ancash s/n, 18001 Moquegua, Peru*
[g] *Instituto de Ciencias de la Vid y del Vino (CSIC-GR-UR), Department of Oenology, Finca La Grajera, Ctra. de Burgos Km. 6 (LO-20 - salida 13), E-26007 Logroño, La Rioja, Spain*

ARTICLE INFO

ABSTRACT

During the early months of 2020, the world experienced a novel, violent, and relentless pandemic era. By the end of the year more than seventy-seven million cases of COVID-19 had been reported around the globe. Due to it being a highly contagious disease, the recommended measures adopted by most nations to prevent infection include social distancing and quarantine. How did these measures affect people's relationship with alcohol consumption in cultures where alcohol plays an important social role? A questionnaire-based study, designed to follow the drinking behaviour of people before and during lockdown was applied to two different cultural groups impacted by the pandemic during the strict phase of lockdown. These are the British and Spanish populations (179 participants from each country were interviewed). Considering the frequency of consumption of the alcoholic beverages evaluated (wine, beer, cider, whisky and spirits), the results showed that a significant lockdown*country interaction was observed. Overall, Spanish participants consumed alcoholic beverages less frequently during lockdown than before, while British participants reported no change in their consumption habits. Spaniards' decrease in alcohol consumption is related to the absence of a social contexts while Britons seems to have adapted their consumption to the modified context. Results suggest that, alcohol consumption is a central core of the British culture, while for the Spanish, socialization is more a cultural characteristic than the alcohol itself.

1. Introduction

The management theorist Philip Crosby's insightful assertion "*If anything is certain, it is that change is certain*" (Crosby, 1995) has never been so prophetic and has seldom been so relevant to the current world reality. In the first half of the 2020 year the world experienced a new, violent, and relentless pandemic era. More than seventy-seven million people around the world were infected with *Coronavirus Disease 2019* (COVID-19) and, more than 1.7 million people had lost their lives in this pandemic by the end of the year (worldmeter.com, 2020).

Paradoxically, exactly hundred years ago, at the beginning of the 1920 s, the world also experienced drastic changes: but they were different to now, in a reconstructive way[1]. The world had just suffered the evils of the Great War and the devastation caused by another mortal

---

* Corresponding author.
  E-mail address: heber.rodrigues@plumpton.ac.uk (H. Rodrigues).
[1] This period was known as the *"Roaring Twenties",* a period that experienced a bourgeoning economic prosperity with a distinctive cultural edge in the Western societies, United States and Europe (Moore, 2015).

pandemic: the Spanish flu, which from its beginning in 1918 until its end in 1920, claimed more than 50 million lives worldwide (Taubenberger & Morens, 2006). Rosner (2010) reviewed the state of public health before the epidemic of Spanish flu of 1918, seeking to place the reaction to the disease in the context of the evolution of public health. The author demonstrates that much of public health was rooted in the experiences and practices developed over the previous century in responding to often dramatic outbreaks of cholera, yellow fever, typhoid, and a host of other infectious diseases. He reports that the adopted measures of some US states in 1918, for example, to prevent the spread of contamination were prolific and included early, broad isolation (i.e., closing of schools and churches, banning of mass gatherings, mandated mask wearing, lockdown and disinfection). It is important to stress that, nowadays, even with contemporary tools of surveillance and technology, the central core of the measures adopted by the nation's governmental policies around the globe have followed these essential tenets: viz; social distancing, lockdown, and other primarily sanitary measures. The question is: How do these measures of social distancing and lockdown affect people's daily lives in the context of this new pandemic?

With this in mind, the general aim of this contribution is to explore cultural responses to social distancing and lockdown. Specifically, understanding how these governmental sanitary measures have modified the mechanisms of alcohol consumption and social interaction in two cultures highly affected by the pandemic: the British and the Spanish. Alcoholic beverages were chosen as they are markers of social identity and expression and are strongly grounded within cultures (Lo Monaco et al., 2020; Österberg & Karlsson, 2003). Crossing cultures was used as a strategy because "culture" is one of the most important aspects that shapes drinking patterns[2] (see Stimson, Grant, Choquet & Garrison, 2007 for a review).

1.1. Cultural facets of drinking in the United Kingdom and in Spain

The culture in which individuals find themselves plays a significant role in the potential outcomes of drinking (Stimsom, Grant, Choquet & Garrison, 2007; Rodrigues & Parr, 2019). Most cultures where alcohol is consumed may be divided into three broad categories: *wine cultures*, as in the Mediterranean region; *beer cultures*, as throughout much of Europe and Africa and *spirits cultures*, including Eastern Europe and the Scandinavian countries - see Room & Mäkelä, 2000, for a review[3].

The United Kingdom, officially The United Kingdom of Great Britain and Northern Ireland, is situated in the Western part of Europe and comprises England, Wales, Scotland and Northern Ireland. Alcohol consumption has long been an important part of traditional culture in the UK and drinking is a widely accepted feature of social life, this being reflected in the low proportion of abstainers (Österberg & Karlsson, 2003). United Kingdom is considered a *beer country* (Room & Mäkelä, 2000), having a long history of breweries, with a diverse variety of beers, produced mostly for domestic consumption (Österberg & Karlsson, 2003). Its consumption per capita per year (73 L in 2018) is one of the highest amongst the European countries (Statista, 2020). According to the Pub Statistics of the House of Commons Library (2021) there were

---

[2] At a general level, drinking patterns describe three important aspects of alcohol consumption: population (*gender, age, social and economic factors, genetic and biomedical factors*); context (*culture, noncommercial alcohol, settings and venue)*; and behaviors that may accompany drinking and have bearing on outcomes (*leisure, heavy drinking episodes*) (Stimson, Grant, Choquet & Garrison, 2007). It is important to note that culture, as a large concept, may affect these three aspects of alcohol consumption, acting as an umbrella concept, being able to cover them in its different levels.

[3] Even if it is a *fait accompli* that culture is constantly evolving and changing (Lewens, 2015; Flannery, 1972), it is important to feature traditional cultural categorisations, by which countries are divided by type of alcohol consumption. This helps the reader understand the history of consumption patterns and how it can evolve over time.

approximately more than 47,200 Public Houses or *pubs* in the UK in 2019, half of which are independent. Pubs are an important part of the British culture: according to the House of Commons Library (2021), they improve community engagement and are the third most popular activity for tourists. In regards to spirits, whisky and gin are the most consumed, with a long history of production in the UK, and are drunk straight or as part of alcoholic cocktails. Commercial wine production, however, is relatively new in Great Britain, beginning in the 1990 s (WineGB, 2020). However, the British have incorporated wine with their meals and traditions, and spread this culture across the burgeoning British Empire (Parr & Rodrigues, 2020). Its consumption is so important that a recent report declared that on average, a Briton consumes the equivalent of 108 bottles of wine a year: far more than the rest of the Western world (O. E. C. D., 2017).

Spain, officially the Kingdom of Spain, is a country in South Western Europe comprising 17 autonomous communities and two autonomous cities, which guarantee certain self-government within the sovereignty of the nation. Spain is considered a traditional *wine country* (Room & Mäkelä, 2000) with a diversity of wine regions grounded in culture. Interestingly, following Österberg and Karlsson (2003), alcoholic beverages (especially beer and wine) have been an important source of nutrition and in the social and dietary habits of the Spaniards, where drinking during mealtimes and mixing with both work and social habits are very common and remain very important (e.g., consumption at *bar de tapas*). Beer has become popular especially among young people, being a symbol of casual and modern life, a beverage mostly drunk in bars, on holidays and at leisure events (Österberg & Karlsson, 2003), in place of the traditional home consumption of wine (Gordon, Heim, & MacAskill, 2012). Beer has greatly increased in popularity over the years, with 52 L per capita consumed in 2018. When compared to other categories where the consumption is decreasing, for example, wine with 8.3 L per capita and spirits with 2.6 L of per capita per year (Statista, 2020). These changes in consumption patterns could be attributed to the degree of urbanisation that European countries such as Spain have experienced during the last 70 years (Karlsson & Simpura, 2001).

1.2. Recent research dealing with alcohol consumption during 2020 lockdown period

Researchers worldwide are dedicating considerable effort to understanding and overcoming COVID-19 in different scientific fields. Some of the research in the field of consumer science is dedicated to understanding the relationship between lockdown and alcohol consumption. Faced with a difficult situation each person has her/his own way of dealing with stress, anxiety, fear, boredom… (Torres and Nowson, 2007), as in Covid-19 pandemic period (Elbay et al., 2020). Two of the negative outcomes, for almost all people all around the world, are isolation at home (lockdown) and social distancing. Increased food consumption (Mattioli et al., 2020), or alcohol misuse (Clay & Parker, 2020) are two significant consequences of these socially modified outcomes. Smith & Randall (2012) demonstrating that one of the most detrimental consequences of anxiety is increased alcohol consumption. However, there are few studies dealing with the effects of long-term isolation on alcohol use and misuse (Clay & Parker, 2020). A risk factor for the onset and maintenance of alcohol misuse and alcohol use disorder is trait impulsivity (i.e., the tendency to take risks or act without adequate forethought or reflection). Impulsivity can moderate stress-induced consumption of alcohol and is also associated with relapse in addicted individuals. Thus, this period of isolation might lead to a spike in alcohol misuse, relapse, and potentially, development of alcohol use disorder in at-risk individuals, thereby placing further strain on addiction and drug and alcohol services, and the health service in general, during and after the pandemic (Clay & Parker, 2020). Thus, there is an emergence of drinkers at risk of establishing potentially dangerous patterns of alcohol consumption during lockdown. In the UK, which went into lockdown after a national announcement by Prime

Minister Boris Johnson on March 22nd 2020, data from the Office for National Statistics shows that sales from alcohol stores in March had increased in month-on-month volume by 31.4%. The total sales of wine, beer and spirits in the four weeks leading up to 22nd March increased by £199 million compared with the same period in 2019 (Nadkarni et al., 2020). Research by Alcohol Change UK conducted between 8th to 14th April 2020, found that one in five people (8.6 million adults) were drinking alcohol more frequently in the lockdown (Quinn, 2020; Thomas & Drummond, 2020). However, more than a third of the 1555 people surveyed who reported drinking alcohol before lockdown stated that they had stopped drinking or reduced how often they drank in the two weeks after lockdown commenced. And while about half of the drinkers declared they were consuming about the same amount on a typical drinking day, 15% said they had been drinking more per session since lockdown began (The Lancet Gastroenterology & Hepatology, 2020). Perhaps this is the reason why some countries have announced a complete ban on the sale of alcohol during the lockdown period, such as South Africa and India. The sale of alcohol in some municipalities of Mexico, for example, is limited to certain hours (e.g. Los Cabos and Cancún), and in the state of Nuevo León, beer production and distribution has been suspended, during the peak period of COVID contagion in 2020 (Nadkarni et al., 2020).

2. Research questions

In view of the cultural patterns of alcohol consumption in the United Kingdom and Spain, we wish to explore the effects of lockdown and social distancing through two key questions, namely:

(a) *Was there a change in patterns of alcohol consumption during the lockdown period in the UK and Spain compared to the previous period?*
(b) *How does culture shape alcohol consumption patterns during lockdown?*

3. Material and methods

3.1. Participants

One hundred and seventy-nine participants from each country were interviewed (368 total participants, 56% women) from the 28th of April 2020 until the 7th of May 2020, during the first stage of strict lockdown[4] in each country. Demographic characteristics of participants are shown in Table 1. The sex and age quotas were defined equally for both countries, to avoid variations in the results due to demographic differences.

The selection of participants' responses was carried out by searching for identical quotas of gender and age ranges in both cultures. Seventy-five % of participants were <50 years old. Most of them reported living comfortably within their incomes and have higher education (>71% have at least Bachelor studies). Most participants lived with other people in the household during lockdown (>88%), with the average being a three people household. 25% of participants live with children and<17% with elderlies. Significant differences were found in the area size the dwelling, which was significantly bigger in UK (115 vs 459 m^2 in Spain and UK, respectively). This seems logical considering that British participants tended to live in houses with gardens (69%), while Spanish

---

[4] The first stage of strict lockdown corresponds to the first lockdown imposed by Governments due to COVID-19 pandemic. In Spain, everything was closed except for essential services. All people and workers should stay at home with no right to go out except for buying food or drugs and for people working in essential activities. UK citizens experienced the same restrictions at the same period. However, they were allowed to get out of their residences one hour per day for physical activities.

Table 1
Sociodemographic characterisation (expressed as % of the 179 participants) of British and Spanish participants. Chi-square was calculated for each parameter to verify significant differences between countries (P-value: * P < 0.05; **P < 0.01; ns: not significant, ns greater than 0.05). For parameters marked with *, ANOVA was calculated to evaluate differences between countries.

	SPAIN	UK	P
Participants	179	179	ns
Sex			
Male	44	44	ns
Female	56	56	ns
Age			
from 18 to 29 years old	35	35	ns
from 30 to 39 years old	22	22	ns
from 40 to 49 years old	18	18	ns
from 50 to 59 years old	13	13	ns
from 60 to 69 years old	11	11	ns
70 years or more	2	2	ns
Household			
Flat without balcony/patio	22	9	*
Flat with balcony/patio	57	17	**
A house with garden	18	69	**
A house without garden	3	5	ns
Size of household (cm^2, average) *	115	459	**
Economic situaton			
Comfortable with current income	68	55	ns
Enough to make ends meet	29	34	ns
Troubled to make ends meet	3	9	ns
Seriously troubled to make ends meet	1	1	ns
Study degree			
Elementary school	2	1	ns
Vocational school	10	11	ns
High school	4	17	ns
Bachelor	47	45	ns
Master/PhD	37	26	ns
Household members			
Alone	11	12	ns
With children	27	26	ns
With elderly	16	13	ns
People in house (average)*	3	3	ns

participants lived mostly in flats (79%) with (57%) or without (22%) patio or balcony.

3.2. The construction of the questionnaire

The questionnaire consists of four parts. The first part consisted of two filter questions, working as "inclusion criteria" of participants: *1) drink alcohol beverages at least once a month* and *2) have lived in the country for at least the last 10 years*. The second and the third part of the questionnaire required the participants to answer five (2nd part) and four (3rd part) questions about their drinking habits before and during lockdown, respectively. Consumption habits were evaluated by measuring the frequency of consumption on a 6-point scale (0 = never; 1 = less than once a month; 2 = at least once a month; 3 = at least once a week; 4 = 2/3 times a week; 5 = everyday) of 1) different alcoholic beverages (wine, beer, cider, whisky and other spirits), 2) with whom they drank, either in-person or virtually (family, partner, alone, co-workers, friends), 3) the place (at home, restaurants, pubs, outdoors -i. e. picnic), 4) with food (with small plates-appetizers/tapas, main meals-lunch/dinner, with snacks-chips/pork scratching/peanuts, without food), and on a 5-point scale (0 = never; 1 = sometimes; 2 = often; 3 = very often; 4 = always) the frequency of consumption during weekdays and weekend. In both parts, questions and answers were randomised. The fourth part related to sociodemographic and accommodation questions. The questionnaire is detailed in Appendix A of Supporting Information.

3.3. Procedure

Participants were approached through a Google forms weblink spread via e-mail and social media apps such as Facebook, Instagram, and WhatsApp using a snowball sampling technique.

3.4. Data analysis

Data analysis was carried out in two steps. In the first step we used a univariate approach to understand the changes in patterns of alcohol consumption before and during lockdown in the two countries. Two-way ANOVA (with country: UK and Spain as between-subject factor; and lockdown: before and during as within-subjects factors) was performed for the variables related to drinking habits (2nd and 3rd parts of the questionnaire).

In the second step, we used a multivariate approach to explore the patterns of consumption within each country. Two separate Multiple Correspondence Analyses (MCA), one for each country, were carried out with all variables related to the frequency of consumption habits, evaluated before and during lockdown, as active variables and socio-demographic data as supplementary ones. Only active variables with a frequency ≥ 20% were considered. To simplify interpretation of results, variables were coded as follows: F: for a frequency of at least once a week; O: less than once a week; B: before lockdown; D: during lockdown. For supplementary variables: age (A: >60; MA: 40–59; Y: <40 years old), sex/gender (M: male; F: female), household (AP: apartment without balcony/patio; AP-P: apartment with balcony/patio; H: house without garden, H-G: house with garden), children in house (yes or no), elderlies in house (yes or no), living with others/company (yes or no); studies (A: PhD/Master; B: Master; C: high school; D: vocational school; E: elementary school); level of life (E: comfortable/enough to make ends meet; T: troubled/very troubled).

Further, a hierarchical cluster analysis (HCA) was performed on the main MCA dimensions for segmentation purposes within each country. To characterise the clusters yielded by the HCA, a two-way ANOVA with cluster as between-subject and lockdown (before and during) as within-subject factors was calculated on drinking habits for each country.

All statistical analyses were performed with XLSTAT (Addinsoft, Version 2018.1.1).

4. Results

4.1. The effect of lockdown on the consumption patterns of British and Spanish participants

4.1.1. The effect of lockdown on the frequency of consumption of alcoholic beverages

Considering the frequency of consumption of the alcoholic beverages evaluated (wine, beer, cider, whisky and spirits), a significant effect of the interaction lockdown*country was observed ($F_{1,356}$ = 9.46; P < 0.01). Overall, Spanish participants consumed alcoholic beverages less frequently during lockdown than before (average score = 1.5 vs 1.2), while the British reported no change in their consumption habits (average score = 1.7).

Considering the type of beverages consumed, in both countries, wine and beer were among the alcoholic beverages the most consumed. Their frequency of consumption was country-dependent, but did not experience any significant change due to lockdown. Fig. 1a shows that UK participants consumed wine more frequently (at least once a week, score = 3.2) than beer (at least once a month, score = 2.0). Spanish participants, however, indicated more frequent beer consumption (almost at least once a week, score = 2.8) than wine (more than at least once a month, score = 2.5).

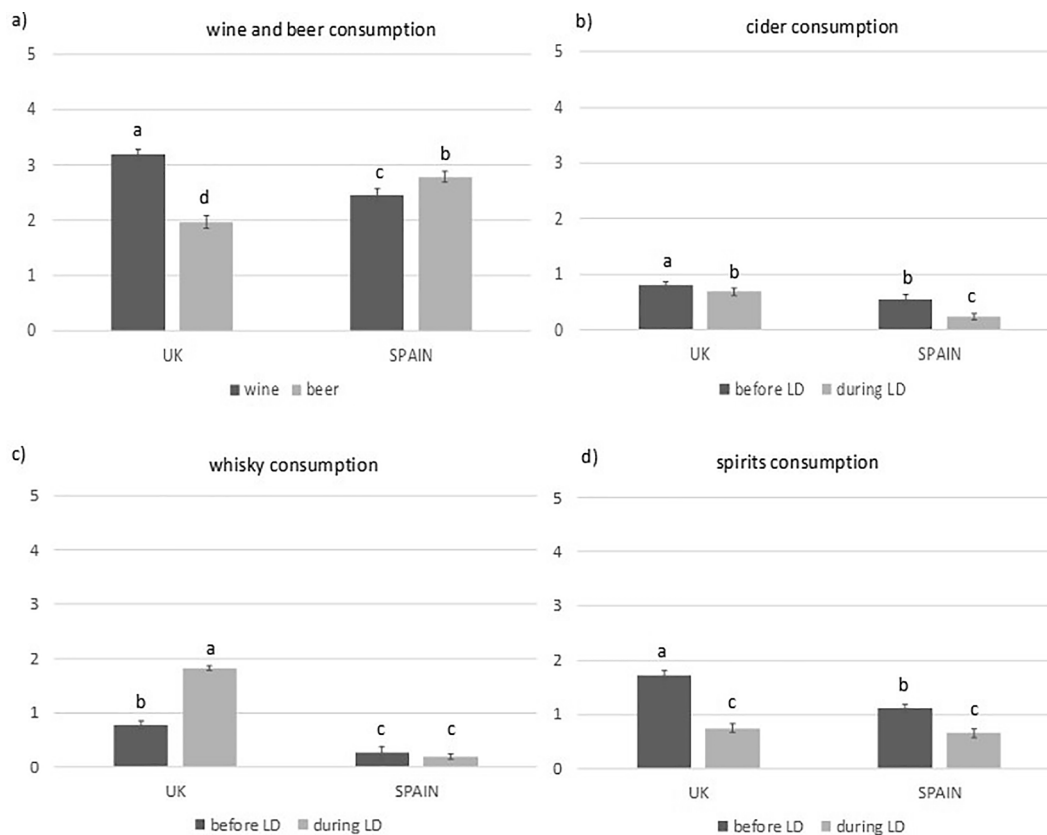Lockdown affected the frequency of consumption of cider, whisky

Fig. 1. Average frequency of consumption in UK and Spain of different types of alcoholic beverages: a) wine and beer, b) cider, c) whisky and d) spirits. Error bars are calculated as the sd/√n; sd: standard deviation; n: number of participants; LD: lockdown.

and spirits, in different ways (Table 2). The consumption of cider was irrelevant in both countries (less than once a month; average score = 0.7, Fig. 1b). Whereas, a clear country effect was observed for whisky and spirits (Fig. 1c and 1d). Whisky consumption increased among British participants with lockdown from less than once a month (score = 0.8) to at least once a month (score = 1.8). No effect of lockdown was observed for Spanish participants, who, in any case, very rarely drink whisky (average score = 0.2). For other spirits, a decrease in consumption was observed in both cultures. This decrease, however, was sharper for British participants, who reached frequencies of consumption similar to that of the Spanish ones (average score = 0.6) during lockdown.

4.1.2. The effect of lockdown on the context of alcoholic beverages consumption

The context, which refers to the type of food consumed with drinks, the day of the week, with whom alcoholic beverages are consumed and whether consumption is in-person or virtual, was affected by both the country of origin and lockdown (Table 2).

With respect to the type of food, no effect of lockdown was observed for the consumption of alcoholic beverages either with main meals or without food (Table 2, Fig. 2a). There was a significant decrease in the consumption of alcoholic beverages with snacks (chips, pork scratching or peanuts) during lockdown regardless of the country of consumers (Fig. 2b). A significant effect of lockdown was observed for the

consumption of alcoholic beverages with small plates such as *tapas*. Fig. 2c shows that while no effect for British participants was observed, there was a significant decrease for Spanish participants during lockdown from once a month and once a week before lockdown (score = 2.6) to once a month or even less (score = 1.7) during lockdown.

With respect to the day of the week, the ANOVA showed a significant main effect of both country and lockdown on the consumption of alcoholic beverages during weekdays but no interaction between these two factors (Table 2). Globally, UK participants drank alcoholic beverages more often during weekdays than Spanish participants both before and during lockdown. During lockdown, however, the weekday frequency of consumption of alcoholic beverages increased in both cultures (Fig. 3). No such effect was observed during weekends.

With respect to the company selected for consuming alcohol, drinking alone was more prevalent for the British than the Spanish, both before and during lockdown (Fig. 4a). Overall, Fig. 4b–d show significant decreases in the consumption of alcoholic beverages with others (i. e., with the partner, family and workmates) during lockdown, regardless of the country of origin of participants. The decrease of drinking with friends and family was greater for Spanish participants than for British ones (Fig. 4c and d). Interestingly, a new social context for drinking flourished during lockdown: virtual meetings, which were more relevant among UK participants. They declared drinking alcoholic beverages during virtual meetings more often than their Spanish counterparts during lockdown; with family (Fig. 5a) (score = 1.9-UK vs 1.3-Spain), but especially with friends (score = 2.7-UK vs 2.4-Spain) (Fig. 5b).

4.2. Characterisation of participants' behaviour by country. Effect of lockdown on the consumption patterns

The present section is aimed at identifying differential consumption patterns within each country and evaluating the effect of lockdown on such patterns. An MCA was performed on the frequency of consumption within each country to identify the main dimensions driving the consumption of alcoholic beverages among participants from each country before and during lockdown. An HCA was then carried out on the main MCA dimensions to identify specific patterns of behaviours occurring within each country.

4.2.1. UK participants

4.2.1.1. Multiple Correspondence analysis (MCA).
The first four dimensions were kept for the analysis (Fig. S1 of Supporting Information). The first dimension, which explains 28% of original variance, shows a clear opposition between frequent and occasional consumers, with no effect of lockdown on their behaviour. This first dimension is significantly correlated with the level of education of participants. More frequent consumers reported to have higher education (mainly Bachelor), while occasional consumers declared that high school is their highest educational qualification. The second dimension (8.3% of original variance) is correlated with the level of socialization while drinking. Social drinking patterns (drinking with friends in restaurants or pubs before lockdown and in virtual meetings during lockdown) are opposed to less social drinking patterns (drinking at home with family in main meals).

Dimension 3 (7.1% of original variance) is linked to the type of beverage, opposing frequent beer drinkers, regardless lockdown, to spirit drinkers (drinking whisky during lockdown and other spirits before lockdown). Finally, Dimension 4 (6.2% of original variance) opposes participants who frequently drink alone regardless of lockdown to more social drinkers.

4.2.1.2. Hierarchical Cluster analysis (HCA).
A HCA was applied to the first four MCA dimensions in order to identify different consumption patterns and the effect of lockdown on British participants. Fig. 6 shows
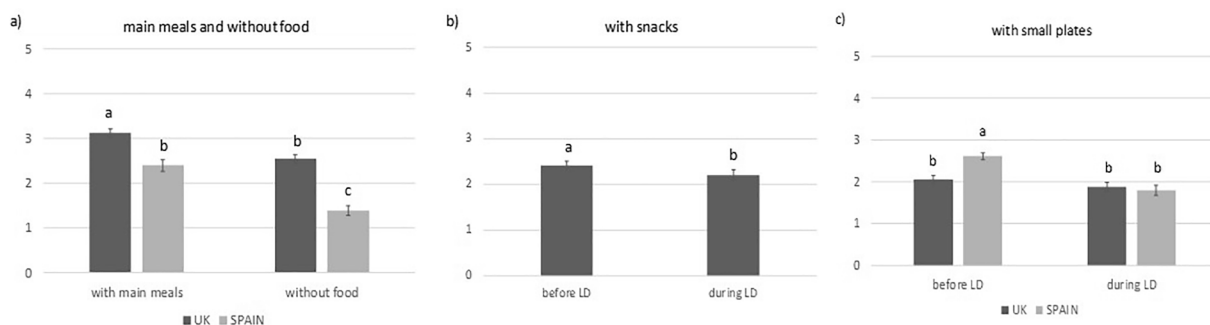
Table 2
Two-way ANOVA calculated for variables describing consumption habits of alcoholic beverages with country (UK, Spain) and lockdown (before LD and during LD) as main effects and their interaction.

	Country		Lockdown		Country*lockdown	
	F	P	F	P	F	P
Type of beverage						
Wine	45.18	<0.0001	0.19	ns	2.43	ns
Beer	58.05	<0.0001	2.62	ns	3.53	ns
Cider	29.62	<0.0001	11.35	0.001	2.12	ns
Whisky	208.24	<0.0001	45.97	<0.0001	59.12	<0.0001
Spirits (rum, gin…)	16.46	<0.0001	74.42	<0.0001	8.80	0.003
TYPE OF FOOD						
with main meals	43.37	<0.0001	0.84	ns	0.38	ns
With small plates	5.11	0.024	22.16	<0.0001	9.03	0.003
With snacks	1.47	ns	4.61	0.032	2.55	ns
Without food	117.6	<0.0001	0.01	ns	0.85	ns
Type of day						
Weekdays	24.41	<0.0001	9.41	0.002	0.026	Ns
Weekends	1.75	ns	2.52	Ns	0.158	Ns
Company						
Alone	28.87	<0.0001	0.01	ns	0.85	ns
With partner	3.23	ns	373.38	<0.0001	1.55	ns
With friends	0.02	ns	127.65	<0.0001	16.74	<0.0001
With family	4.17	0.042	193.64	<0.0001	12.16	0.001
Workmates	2.63	ns	136.95	<0.0001	0.40	Ns
Virtually						
Virtually with partner	0.01	ns	1.08	ns	0.44	ns
Virtually with friends	3.58	ns	167.24	<0.0001	5.70	0.017
Virtually with family	8.33	0.004	16.32	<0.0001	11.99	0.001
Virtually with workmates	1.04	ns	0.00	ns	2.88	ns

Fig. 2. Average frequency of consumption of alcoholic beverages in UK and Spain with different types of foods a) main meals and without food, b) snacks, and c) small plates (i.e., appetizers, *tapas*). Error bars are calculated as the sd/√n-sd: standard deviation; n: number of participants. LD: lockdown.
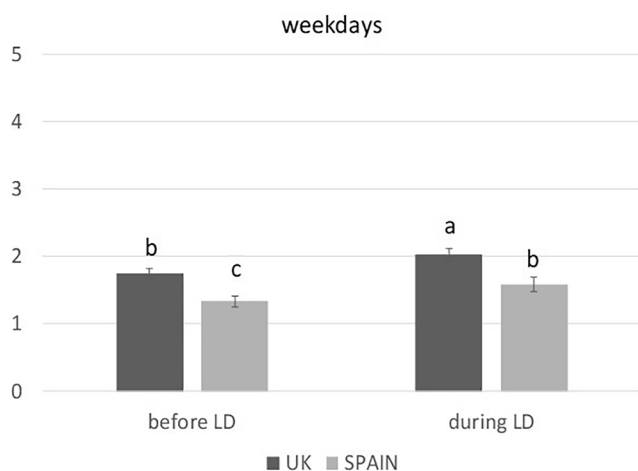

Fig. 3. Average frequency of consumption of alcoholic beverages during weekdays for UK and Spanish participants before and during lockdown (LD). Error bars were calculated as the sd/√n-sd: standard deviation; n: number of participants.

the four main clusters identified. A small group of 31 participants (Cluster 1), which represents 17% of participants, presents the most differential behaviour. Among the three other clusters, two clusters are quite similar (Cluster 3 and 4, which account for 50% and 12% of participants, respectfully) and one cluster representing 23% of participants is more differentiated (Cluster 2).

Considering the overall frequency of consumption of alcoholic beverages, no main effect of lockdown (F $_{1,175}$ = 0.181; P = 0.671) nor interaction with cluster (lockdown*cluster, F$_{3,175}$ = 0.879; P = 0.451) were observed. In contrast, a significant main effect of cluster was observed (F$_{3,175}$ = 28.984; P < 0.001), being Clusters 1 and 2 occasional and Clusters 3 and 4 frequent consumers, regardless lockdown. This cluster effect depends, however, on the type of beverage. More specifically, while the frequency of consumption of wine and beer did not experience any change during lockdown, nor most contexts of consumption (type of food, day of the week or company), significant effects were observed for the consumption of whisky and spirits, and the consumption of alcoholic beverages virtually with friends (Table 3).

Cluster 1 (17% of British participants) includes the highest proportion of young participants, with 55% of them with <30 years old, and living mostly in houses with garden (77%) or in houses in general (83%). They possessed the lowest education qualifications among the participants interviewed, being high school the most frequent among them (Table S2 of Supporting information). Participants of Cluster 1 are mainly occasional consumers (average score < 2; i.e., drinking less than once a month on average), wine being their preferred alcohol beverage regardless of lockdown (Fig. 7). These participants declared preferably

drinking at home rather than in restaurants or pubs before lockdown (Fig. S3 of Supporting Information). In general, they experienced a very limited effect of lockdown on their consumption patterns (Figs. 7 and 8), except for the decrease of consumption with friends (Fig. 8b).

Cluster 2 (23% of British participants) is mainly formed by young people<40 years old (68%, among them 39% with < 30 years and 29% in the 30–39 range of age) with mainly higher education (78% at least bachelor qualifications). This cluster includes the highest percentage of people living in flats among the UK participants (44%), especially in flats with balcony or patio (32%), although houses are the most common form of accommodation (56%). Participants from this cluster consumed wine and beer with similar frequency (average score = 2.6; at least once a month, but less than once a week) (Fig. 7a). Interestingly, they consumed alcohol beverages either at home or outside (restaurants or pubs) before lockdown (Fig. S3 of Supporting Information). Despite the fact that during lockdown pubs and restaurants were closed, they experienced a similar limited impact of lockdown on their consumption habits as that observed for participants of Cluster 1, being exclusively affected by the decrease in the consumption of alcoholic beverages with friends.

Cluster 3, which is the most numerous group with 47% of participants, includes the highest proportion of consumers with more than 50 years old (35%) and the lowest proportion of participants within the youngest cohort (21%) (Table S2 of Supporting information). They mostly live in houses (86%) mainly with garden (74%), and present the higher number of participants living with children (36%). Cluster 4, being the least numerous cluster with 12% of participants, presents the highest proportion of consumers with <40 years (73%, 55% of them with <30 years) with higher education (86%) and the least proportion of participants with children (14%). Participants of Cluster 3 drink mainly at home before lockdown, differently from Cluster 4, which consumed alcohol with similar frequency at home or in pubs and restaurants (Fig. S3 of Supporting Information). Notwithstanding, both clusters, which represent almost 60% of respondents, present common consumption patterns affected similarly by lockdown. Fig. 7a shows that both clusters are frequent consumers of wine (average score = 3.8 and 3.7 for Cluster 3 and 4, respectively; almost 2–3 days/week). However, while participants from Cluster 3 consumed beer only occasionally (average score = 1.6; between less than once a month and at least once a month) participants of Cluster 4 frequently consumed beer in addition to wine (average score = 3.2 between once week and 2–3 days/week). For both groups of participants, the consumption of whisky experienced a significant increase during lockdown (Fig. 7b), with a frequency of never or less than once a month before lockdown to at least once a month for Cluster 3 (average score = 2.2) and to at least once a week for Cluster 4 (average score = 3.0). This increase occurred at the expense of spirit consumption, which drastically decreased with lockdown, especially for Cluster 4 (Fig. 7c). As observed for the other two clusters, significant decreases in the consumption of alcoholic beverages with friends during lockdown is observed (Fig. 8b) and increases in the consumption during
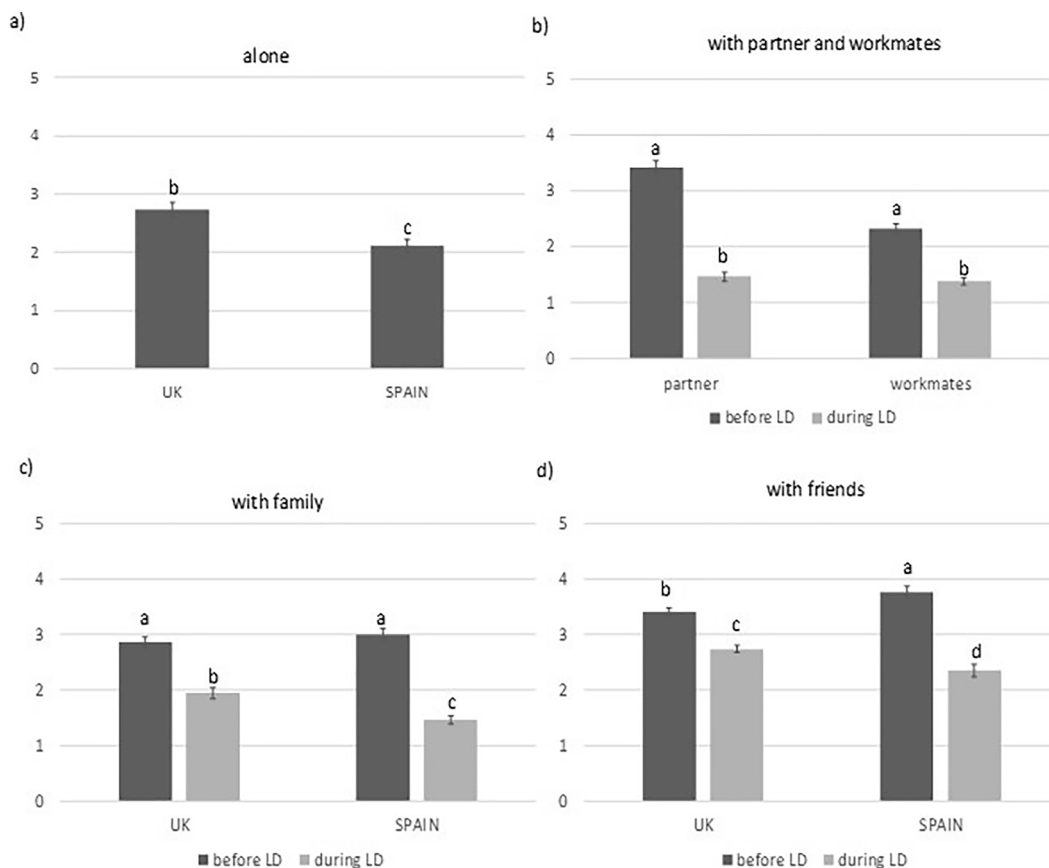
Fig. 4. Average frequency of consumption of alcoholic beverages in UK and Spain in different contexts: a) alone, b) with partner or workmates, c) with family and d) with friends. Error bars are calculated as the sd/√n-sd: standard deviation; n: number of participants. LD: lockdown.
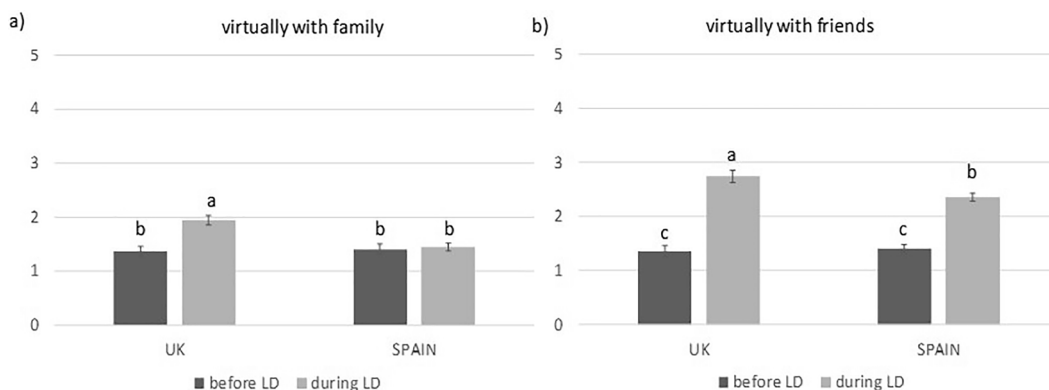

Fig. 5. Average frequency of consumption of alcoholic beverages before and during lockdown (LD) in UK and Spain in virtual meetings with a) family, and b) friends. Error bars were calculated as the sd/√n-sd: standard deviation; n: number of participants.

virtual meetings with friends (Fig. 8c), being especially important for young participants of Cluster 4.

4.2.2. Spanish participants

4.2.2.1. Multiple correspondence analysis (MCA). Four MCA dimensions were kept (Fig. S4 of Supporting Information). As observed, for UK consumers, the first dimension (30.9% of original variance) shows a clear difference between frequent and occasional consumers occurring regardless of lockdown. Interestingly, living in flats with patio or balcony seems to be related to higher frequency in the consumption of alcoholic beverages than living in flats with no patio or balcony. Besides

this main dimension, other dimensions appear to be important such as Dimension 2 (9.5% of original variance) and Dimension 3 (6.9% of original variance), which oppose social (drinking with friends eating snacks or without food in pubs or in virtual meetings, before and after lockdown, respectively) to less social (drinking at home with family during main meals in weekdays regardless lockdown) consumption patterns. Dimension 4 is linked to the type of beverage, opposing frequent beer drinkers regardless of lockdown, to eminent social consumers that used to drink wine before lockdown, and decreased their consumption during lockdown.

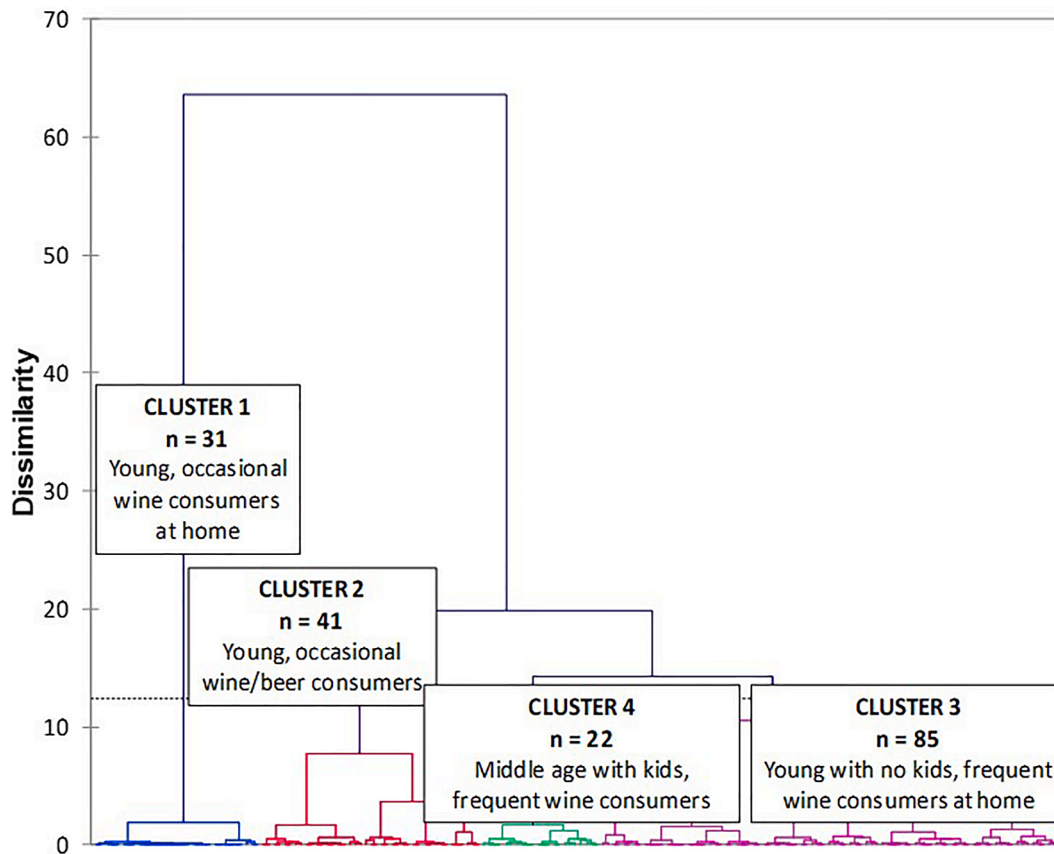*4.2.2.2. Hierarchical cluster analysis (HCA).* Cluster analysis performed

Fig. 6. Dendrogram calculated with the first four dimensions derived from Multiple Correspondence Analysis (MCA) performed on consumption habits of UK participants.

Table 3
Two-way ANOVA calculated for variables describing consumption habits of alcoholic beverages of UK consumers with cluster (1–4) and lockdown (before LD/during LD) as main effects and their interaction.

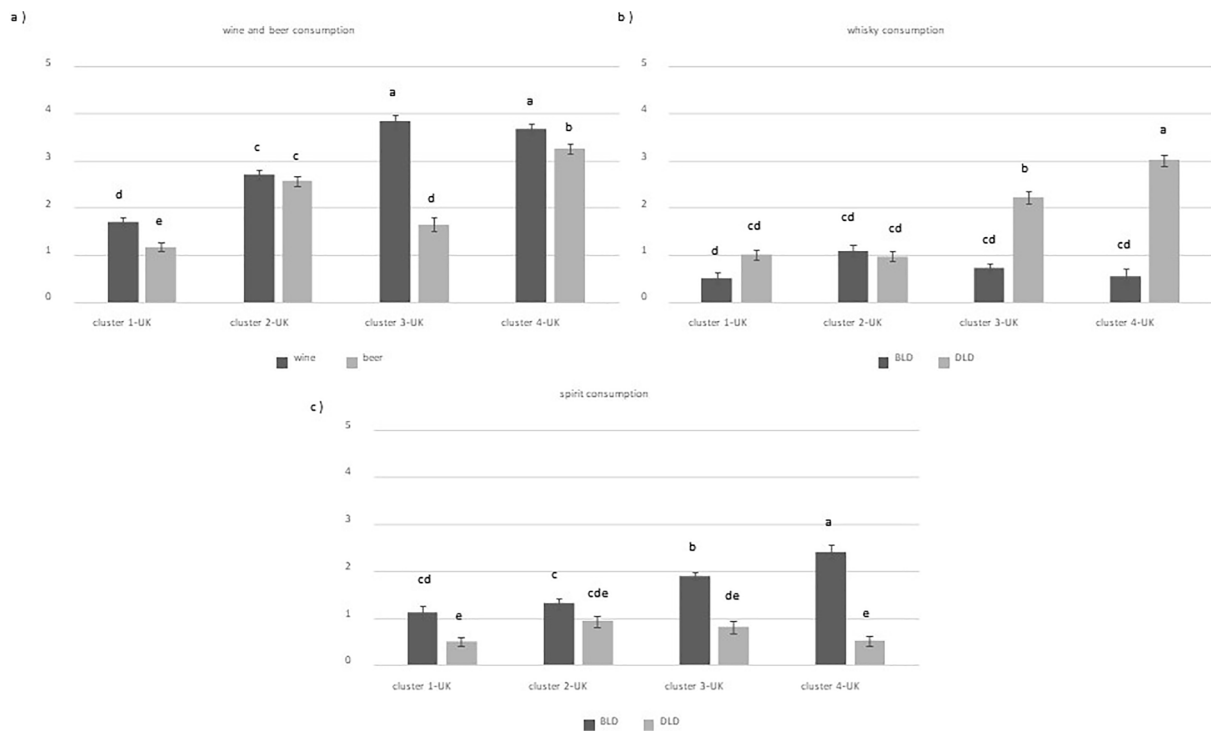|	Cluster		Lockdown		cluster*lockdown	
	F	P	F	P	F	P
Type of beverage						
wine	75.406	**<0.0001**	1.294	Ns	1.142	ns
beer	27.825	**<0.0001**	0.036	Ns	0.030	ns
cider	0.406	ns	1.341	ns	0.687	ns
whisky	10.256	**<0.0001**	80.453	**<0.0001**	16.627	**<0.0001**
Spirits (rum, gin…)	4.871	**0.002**	70.155	**<0.0001**	5.425	**0.001**
Type of food						
With main meals	84.478	**<0.0001**	2.912	ns	0.456	ns
With small plates	37.439	**<0.0001**	1.945	ns	1.543	ns
With snacks	41.151	**<0.0001**	0.210	ns	2.417	ns
Without food	28.734	**<0.0001**	0.114	ns	0.996	ns
Type of day						
Weekdays	37.686	**<0.0001**	7.555	**0.006**	1.630	ns
Weekends	47.950	**<0.0001**	1.061	ns	1.064	ns
Company						
alone	14.386	**<0.0001**	0.395	ns	0.005	ns
With my partner	21.568	**<0.0001**	1.451	ns	2.433	ns
With friends	21.261	**<0.0001**	290.27	**<0.0001**	1.296	ns
With family	12.595	**<0.0001**	1.874	ns	0.781	ns
Virtually						
Virtually with partner	16.948	**<0.0001**	1.681	ns	2.225	ns
Virtually with friends	18.211	**<0.0001**	153.48	**<0.0001**	4.899	**0.002**
Virtually with my with family	9.388	**<0.0001**	26.440	**<0.0001**	2.541	ns
Virtually with workmates	8.041	**<0.0001**	1.419	ns	0.582	ns

Fig. 7. Average frequency of consumption of different types of alcoholic beverages in the four British clusters before (BLD) and during (DLD) lockdown: a) wine and beer, b) whisky and c) spirits. Error bars are calculated as the sd/√n; sd: standard deviation; n: number of participants.
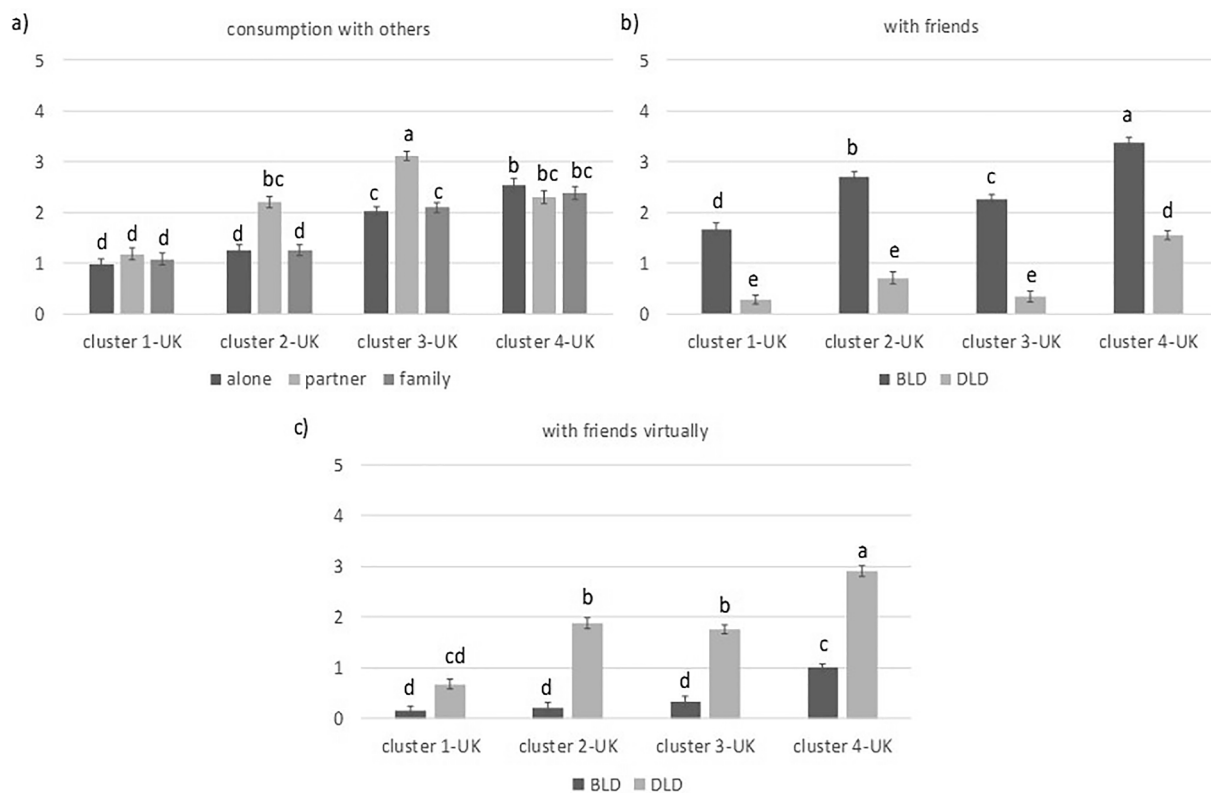

Fig. 8. Average frequency of consumption of alcoholic beverages in the four British clusters before (BLD) and during (DLD) lockdown in different contexts: a) alone, with partner or family, b) with friends and c) virtually with friends. Error bars are calculated as the sd/√n; sd: standard deviation; n: number of participants.

on the first four dimensions of the MCA yielded three main clusters of participants with differentiated behaviours (Fig. 9). Cluster 1 is the most numerous with 104 participants, followed by cluster 2 with 45 and

Cluster 3 with 30 participants. Cluster 1 is also the most differentiated cluster especially in terms of frequency of consumption. It is formed by consumers who drink more frequently (at least a week). Cluster 2,
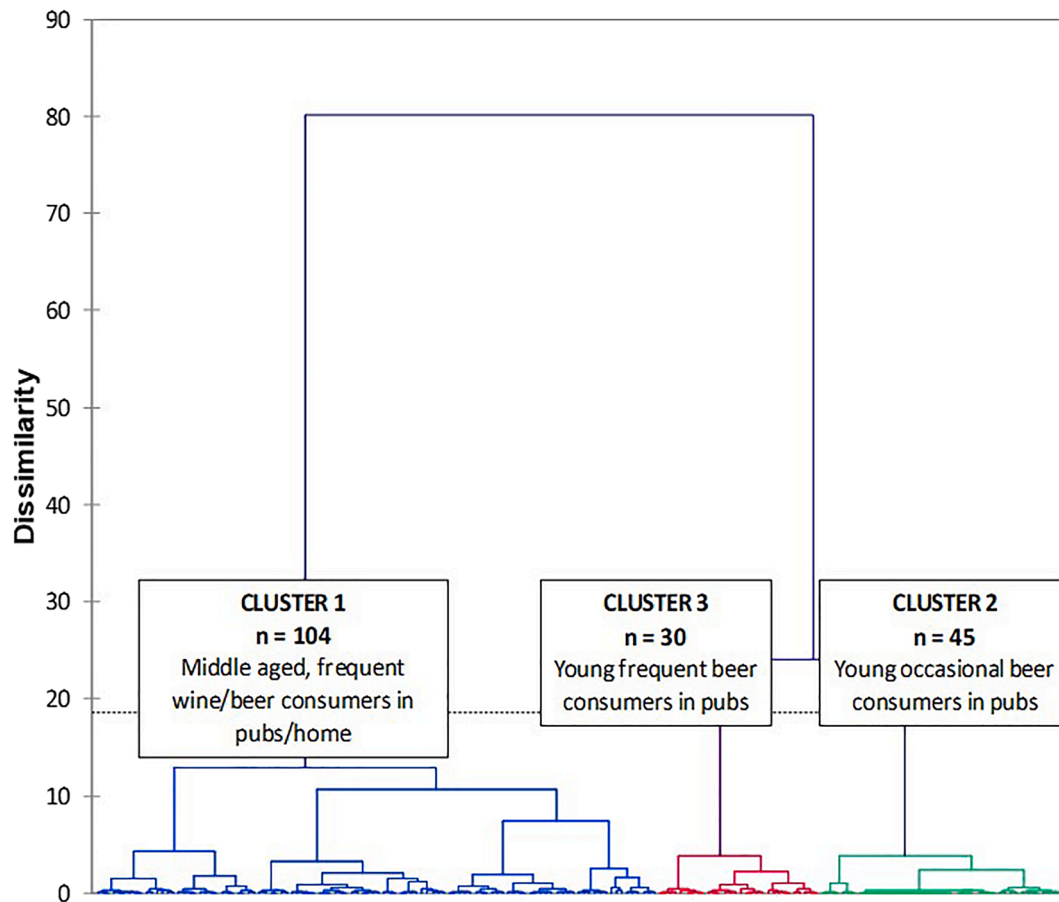
Fig. 9. Dendrogram calculated with the first four dimensions derived from Multiple Correspondence Analysis (MCA) performed on consumption habits of Spanish participants.

Table 4

Two-way ANOVA calculated for variables describing consumption habits of alcoholic beverages of Spanish consumers with cluster (1–3) and lockdown (before LD/ during LD) as main effects and their interaction.

	Cluster		Lockdown		Cluster*lockdown	
	F	P	F	P	F	P
Type of beverage						
Wine	119.56	< 0.0001	2.784	ns	4.787	0.009
Beer	23.921	< 0.0001	8.050	0.005	2.272	Ns
Cider	0.942	ns	15.42	0.000	0.129	Ns
Whisky	2.290	ns	0.972	ns	0.285	Ns
Spirits (rum, gin…)	**7.007**	**0.001**	17.076	< 0.0001	2.043	Ns
Type of food						
With main meals	150.68	< 0.0001	0.067	ns	5.537	0.004
With small plates	56.189	< 0.0001	39.147	< 0.0001	6.904	0.001
With snacks	29.114	< 0.0001	8.148	0.005	6.517	0.002
Without food	13.903	< 0.0001	2.267	ns	4.415	0.013
Type of day						
Weekdays	48.926	<0.0001	0.001	ns	8.361	Ns
Weekends	79.379	<0.0001	13.739	0.000	11.038	<0.0001
Company						
Alone	26.863	<0.0001	0.569	ns	0.078	Ns
With my partner	40.625	<0.0001	4.666	0.033	0.358	Ns
With friends	16.782	<0.0001	710.83	<0.0001	10.667	<0.0001
With family	22.695	<0.0001	10.056	0.002	0.440	Ns
Virtually						
Virtually with my partner	5.573	0.004	0.069	ns	0.213	Ns
Virtually with friends	5.365	0.005	44.81	<0.0001	2.304	Ns
Virtually with family	6.897	0.001	0.000	ns	0.354	Ns
Virtually with workmates	4.695	0.001	0.714	ns	0.272	Ns

includes mainly occasional consumers (once a month) and participants from Cluster 3 have an intermediate behaviour.

Besides the general effects of lockdown reported in Section 4.1 for Spanish consumers (significant main effects for lockdown), specific lockdown effects varying among clusters (cluster*lockdown) can be identified (Table 4). These effects were related to the frequency of wine consumption, as well as to different drinking contexts: consumption of alcohol beverages with food, and the day of the week.

Cluster 1 (60% of Spanish participants) has the highest percentage of aged participants (especially those between 60 and 69 years old), and the lowest within the youngest cohort (26% 18–29 years old) (Table S5 of Supporting Information). 90 % of them declared to have higher education (Bachelor or more). Interestingly, this cluster of participants was used to drinking beer and wine frequently (Fig. 10a and 10b) both at home and in pubs before lockdown (Fig. S6 of Supporting Information). During lockdown, their consumption of beer decreased (Fig. 10b) while their wine consumption did not experience any significant change (Fig. 10a). These aged participants increased their consumption of alcoholic beverages with main meals, while showing a decrease with small plates or *tapas* and with friends (Fig. 11).

Cluster 2 and Cluster 3 (17% and 25% of Spanish participants) are mainly composed of young consumers, especially Cluster 3, with 60% and 74% of participants with<40 years old, respectively (Table S5 of Supporting Information). Participants from Cluster 2 declared drinking beer occasionally (at least once a month) and wine rarely (less than once a month). Participants from Cluster 3 also consumed more beer than wine, but with a highest global frequency than those of Cluster 2 (beer at least once a week and wine at least once a month). Cluster 2 and 3 were more affected by lockdown than Cluster 1. Their consumption during lockdown significantly decreased during weekends to less than once a month (Cluster 2: from 1.8 to 1.4; Cluster 3: from 2.7 to 1.7), globally with all types of food contexts and with friends (Fig. 11). This result could be attributed to the more social nature of these two clusters as they declared to drink mainly beer with *tapas,* snacks or without food in pubs with friends during weekends (Fig. S6 of Supporting Information) before lockdown (Fig. 11).

In summary, these results suggest that beer is the preferred beverage in social contexts (in pubs or restaurants with friends and eating small plates or snacks) and thus its consumption experienced an overall significant decrease during lockdown for Spanish participants. Wine, however, seems to be ambivalent. It is mostly consumed by the most numerous cluster of Spanish consumers (Cluster 1) in non-social contexts (wine at home alone or with partner while eating main meals), and in social contexts (wine in pubs with friends during weekends) by young consumers of Cluster 3, who are generally more frequent beer consumers and only occasional wine drinkers.

5. Discussion

The present study aimed to highlight cultural responses to lockdown and social distancing during the COVID-19 pandemic of 2020. Two cultural groups highly affected by the pandemic, namely the British and the Spanish, were compared in terms of alcohol consumption patterns and their cultural habits surrounding its consumption during lockdown, in comparison with the previous period. Three questions were developed.

5.1. Was there a change in patterns of alcohol consumption during the lockdown period in the UK and Spain compared to the previous period?

With the lockdown measures in United Kingdom, the off-trade (supermarket, convenience store, etc.) total alcohol market volume passed from 4400 million of liters in 2019, to 4910 million in 2020, mainly due to higher beer consumption, while wine was stable between 2019 and 2020 (Euromonitor, 2021a). On the other hand, the off-trade sales change was less evident in Spain, it passed from 2250 million of liters in 2019, to 2450 million in 2020 (Euromonitor, 2021b), less than half of the change compared to United Kingdom. This different tendency, showing that British tended to drink more than Spanish during lockdown, is well in line with the results derived from the consumption patterns reported by the participants of the present study. In general, our results showed a decrease of alcohol consumption by Spaniards, which
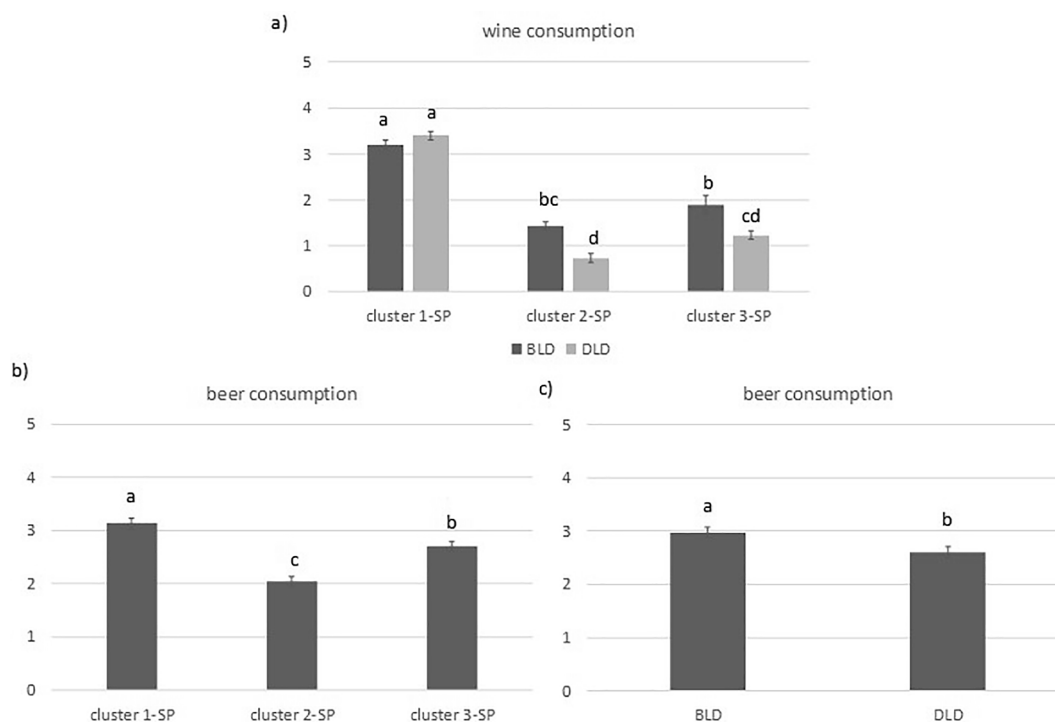

Fig. 10. Average frequency of consumption of different types of alcoholic beverages in the three Spanish clusters: a) wine before (BLD) and during (DLD) lockdown, b) beer and c) beer before (BLD) and during (DLD) lockdown. Error bars are calculated as the sd/√n; sd: standard deviation; n: number of participants.
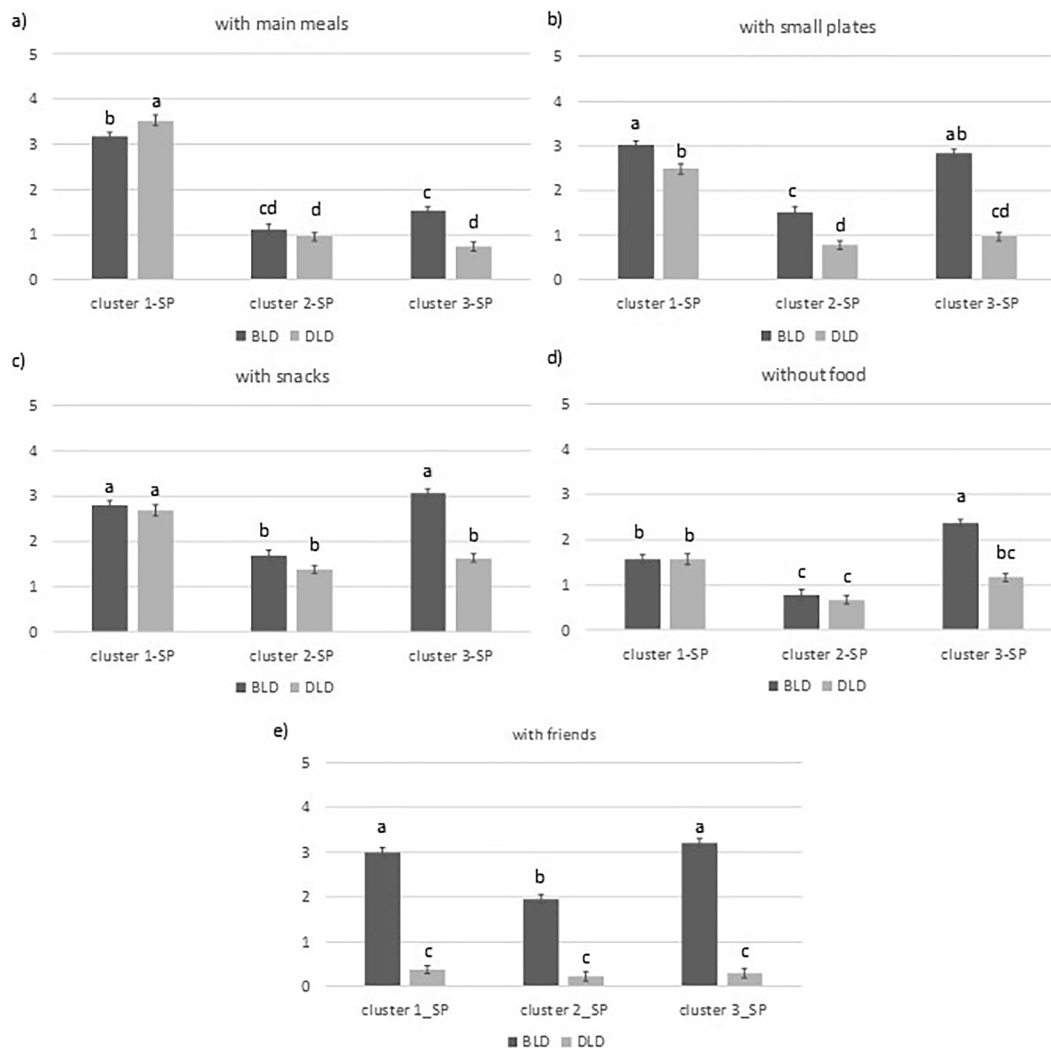
Fig. 11. Average frequency of alcohol consumption for the three Spanish clusters before (BLD) and during (DLD) lockdown with a) main meals, b) small plates or *tapas* c) snacks, d) without food and e) with friends. Error bars are calculated as the sd/√n; sd: standard deviation; n: number of participants.

was not observed for the group of British participants.

These first results agree with those from López-Bueno et al. (2020) and Laguna et al. (2020) who showed in their recent paper that in Spain the consumption of alcohol and/or tobacco decreased during the course of confinement. The authors concluded that it seems that during this period of lockdown, in which health was even more important than usual, people may be trying to adopt healthier lifestyles. For the British, the results of this study were in part similar to The Lancet Gastroenterology & Hepatology (2020) which pointed out that 50% of the participants of the study declared they were consuming about the same amount on a typical drinking day, and 15% said they had been drinking more per session since lockdown began. These lasts do not correspond to the consumers who answered the present survey. This might be due to a limitation of sampling, by which heavy drinkers did not answer our survey, and could be mainly responsible for the overall increase in the sales of alcoholic beverages in UK during lockdown, as showed by Quinn, (2020) and Thomas & Drummond (2020). Regarding the healthier lifestyle adoption during COVID, it has already been discussed how consumers also made positive changes in their food habits and choices. For example, in a recent study, Jaeger et al. (2021) concluded that Covid-19 was a catalyst for positive dietary changes for 44% of the participants of a survey carried out in the United States, with a sample of 904 adults. In their study, respondents that opted for a positive change, tended to be younger consumers with higher educational attainment.

And even if their findings are country-specific, this could be part of a bigger trend of healthier lifestyle that was triggered by COVID for some consumers.

5.2. How does culture shape the alcohol consumption pattern during lockdown?

It seems that the way people socialise with others was the main dimension driving consumption patterns during lockdown. In addition, this dimension seems to be culturally-dependent. For instance, the consumption of beer— the preferred beverage in social contexts in Spain (in pubs or restaurants, consuming with friends and eating small plates or snacks)— decreased during the lockdown period in this country. This result leads us to conclude that beer really has an important social role for this group of consumers and that the determining lever which drives the consumption of this type of drink is social context. Interestingly, this conclusion does not hold for wine. Whilst wine was consumed in social contexts (in pubs with friends during weekends) by young consumers of Cluster 3 it was consumed in non-social contexts (at home alone or with partner while eating main meals) by the most numerous cluster of older Spanish consumers (Cluster 1).

Even though Spain is traditionally classified as a "wine country"[5], it seems that cultural habits are evolving (Lewens, 2015). Other forms of cultural communication through drinks are emerging, as is the case of beer consumption by young citizens in a social context. Likewise, the traditional classification of the UK as a "beer country" is not consistent with the consumption declared by British participants in the present study. When we observe Britons' responses, both wine and beer seem to have an ambivalent social role. Contrary to what we observed for Spanish participants, no distinction between the consumption of beer and wine in social context or private life was observed for British participants. This is not surprising, because these results follow several econometric and historical data that show that the UK has accounted for a major share of the world's wine imports for centuries (Anderson & Wittwer, 2017). An interesting study developed by Simpson (2004), who analysed the British wine market between 1860 and 1914, pointed out that historically the consumer demand both for spirits and for beer were similar to that for wine. These historical data of similarity in the consumption of different categories of drinks may be responsible for the non-distinction between what is consumed in a private context and what is consumed in a social context, as it was for Spaniards.

However, lockdown has impacted the patterns of consumption of whisky and other spirits for British participants. The frequency of consumption of whisky increased in the group of British participants during lockdown differently from Spaniards, whose consumption is negligible regardless lockdown. According to Barefoot et al (2002) and Valencia-Martín et al (2009), a preference for distillates is usually associated with excessive alcohol consumption. This does not mean that the consumption level of spirits is high, but that the proportion of total alcohol consumed in the form of spirits is high. Our results on whisky consumption, as previously highlighted, seem to show a tendency of the Brits to consume more alcohol relative to Spaniards during lockdown. Nevertheless, we cannot ignore that whisky is a part active of British culture and consumption. "*Scotch whisky is part of Scotland's heritage and folklore*", as cited by Bower (2016) citing the words of Bill Walker MP in 1987, during the reading of the Scotch Whisky Bill in the UK Parliament. This is markedly visible when we look at other spirits, where a decrease in consumption was observed in both cultures, but being much sharper for Britons. Thus, this aspect could be what culturally differentiates UK and Spain consumption on the decrease of other spirits because, the drop-in consumption in both countries seems to have been the result of the closing of nightclubs and bars (i.e., drinking in a social environment episode). This is supported, for instance, by data from the Office of National Statistics (2018). In the section "adults drink habits in Great Britain" is visible that the greater consumers of this category of beverages are young people (16–24 years old). In the United Kingdom, this type of drink is mostly consumed in the format of cocktails, like the "*Pornstar Martini*"[6], while "Gin Tonic" is widely consumed on the Spanish nightlife.

The role of social context in drinking was also attested by the abrupt decrease in drinking beer with *tapas* during the weekend with friends, during lockdown. This was observed in all clusters and also *wine-tapas* for cluster 3, as well as the decrease of consumption during weekends for beer consumers of clusters 2 and 3 and in all eating scenarios. This loss of physical interaction was very important for the practice of socialisation in Spain.

Interestingly, as shown in the results, a new scenario of alcohol consumption (drinking virtually with others) has emerged strongly among British participants during the pandemic. According to Lo Monaco et. al., (2020) the act of drinking alcohol, may play a positive role improving social relations, printing a "lifestyle" character, highly grounded in social environment (Stimson, Grant, Choquet & Garrison, 2007) and being observed as playing an important social role in cultures for generations (Arizón, Escario, & Sánchez-Ventura, 2014). Regarding this virtual social interaction, our results go in the same direction as a very recent study developed in the COVID-19 period by Sun et al. (2020) which showed that in United Kingdom and Spain, along with Italy, Denmark and The Netherlands the lockdown significantly altered lifestyles —because people spent more time at home, travelled much less, and were more active on their phone, they interact with others by using social apps. This characteristic could be in part explained by the herd character of human being (Eibl-Eibesfeldt, 1979). Along with the idleness aspect of lockdown, it seems that the isolation caused people to seek to interact with their friends, colleagues and family, trying to maintain a type of "normality" in their daily lives. This explains why, for example, the alcohol consumption habits of some UK participants have remained the same, in terms of number and type/form of consumption (e.g., wine and beer). The search for some sort of "normality" was reflected in the use of the virtual meeting apps, thus being present with others, even if they were physically absent.

6. Conclusions

This paper explored the changes of drinking patterns in response to the restrictions caused by the lockdown of the COVID-19 by comparing two cultural groups, namely Britons and Spaniards. Our findings show that Spanish consumers are more social drinkers than UK consumers, and consequently, lockdown induced a decrease in consumption for Spanish participants, while UK participants maintain their frequency of consumption during lockdown and increased it for a proportion of participants interviewed. In other words, the decrease in alcohol consumption in Spanish participants is linked to the limitation of social interaction.

Contrary to the general idea that UK is a beer country and Spain a wine country, in our study, British participants were more inclined to drink wine and the Spanish participants to drink beer. The frequency of consumption of wine and beer was not affected by lockdown for British. Whereas the Spanish consumers reported a generalised decrease in the consumption of beer, a decrease in wine was observed only for occasional consumers.

Our study was done in a specific moment, with a specific number of COVID infections and lockdown conditions. We acknowledge that the moment of the study can be a source of variability, and other studies, in different lockdown periods, are needed to better understand the changes of alcohol consumption in a larger time frame.

---

[5] According to WHO global status report on alcohol consumption (2019) the traditional difference in beverage preference, where northern Europeans preferred beer while southern Europeans consumed more wine, is decreasing. Nowadays, in Spain the most consumed alcoholic beverage in litres of pure alcohol is beer, while in Sweden, it is wine. It is important to note that our results go in the same direction of what was pointed out in the WHO report.

[6] According to The Drinks Business (2019), *Pornstar Martini* coming out consecutively on top as more consumed cocktail in the UK, during parties in nightclubs or also in bars over the years.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.foodqual.2021.104344.

References

Anderson, K., & Wittwer, G. (2017). UK and global wine markets by 2025, and implications of Brexit. *Journal of Wine Economics, 12*(3), 221–251.

Arizón, M. J. B., Escario, J. J., & Sánchez-Ventura, J. G. (2014). Predictors of driving under the influence of alcohol among Spanish adolescents. *Adicciones, 26*(2). *Adicciones*.

J.C. Barefoot M. Grønbæk J.R. Feaganes R.S. McPherson R.B. Williams I.C. Siegler Alcoholic beverage preference, diet, and health habits in the UNC Alumni Heart Study 76 2 2002 2002 466 472.

Bower, J. (2016). Scotch whisky: History heritage and the stock cycle. *Beverages, 2*(2), 11.

Clay, J. M., & Parker, M. O. (2020). Alcohol use and misuse during the COVID-19 pandemic: A potential public health crisis? *Lancet Public Health*. https://doi.org/10.1016/S2468-2667(20)30088-8

Crosby, P. B. (1995). *Philip Crosby's reflections on quality: 295 inspirations from the world's foremost quality guru*. New York: McGraw-Hill.

Eibl-Eibesfeldt, I. (1979). Human ethology: Concepts and implications for the sciences of man. *Behavioral and Brain Sciences, 2*(1), 1–26.

Elbay, R. Y., Kurtulmuş, A., Arpacıoğlu, S., & Karadere, E. (2020). Depression, anxiety, stress levels of physicians and associated factors in covid-19 pandemics. *Psychiatry Research, 290*, 113130. https://doi.org/10.1016/j.psychres.2020.113130

Euromonitor (2021-a). Alcoholic drinks in the United Kingdom. May 2021. Euromonitor International passport. Retrieved from http://portal.euromonitor.com/portal [July, 2021].

Euromonitor (2021-b). Alcoholic drinks in Spain. June 2021. Euromonitor International passport. Retrieved from http://portal.euromonitor.com/portal [July, 2021].

Flannery, K. V. (1972). The cultural evolution of civilizations. *Annual Review of Ecology and Systematics, 3*(1), 399–426.

Gordon, R., Heim, D., & MacAskill, S. (2012). Rethinking drinking cultures: A review of drinking cultures and a reconstructed dimensional approach. *Public health, 126*(1), 3–11.

Jaeger, S. R., Vidal, L., Ares, G., Chheang, S. L., & Spinelli, S. (2021). Healthier eating: Covid-19 disruption as a catalyst for positive change. *Food Quality and Preference, 92*, 104220. https://doi.org/10.1016/j.foodqual.2021.104220

Karlsson, T., & Simpura, J. (2001). Changes in living conditions and their links to alcohol consumption and drinking patterns in 16 European countries, 1950 to 2000. *Nordic Studies on Alcohol and Drugs*.

Laguna, L., Fiszman, S., Puerta, P., Chaya, C., & Tárrega, A. (2020). The impact of COVID-19 lockdown on food priorities. Results from a preliminary study using social media and an online survey with Spanish consumers. *Food Quality and Preference, 86*, 104028. https://doi.org/10.1016/j.foodqual.2020.104028

Lewens, T. (2015). *Cultural evolution: Conceptual challenges*. OUP Oxford.

Lo Monaco, G., et al. (2020). Alcohol "use"and "abuse": when culture, social context and identity matter: Alcohol "use"and "abuse". *Current Opinion in Food Science*.

López-Bueno, R., Calatayud, J., Casaña, J., Casajús, J. A., Smith, L., Tully, M. A., … López-Sánchez, G. F. (2020). COVID-19 Confinement and Health Risk Behaviors in Spain. *Frontiers in Psychology, 11*, 1426.

Mattioli, A. V., Sciomer, S., Cocchi, C., Maffei, S., & Gallina, S. (2020). Quarantine during COVID-19 outbreak: Changes in Diet and physical activity increase the risk of cardiovascular disease. *Nutrition, Metabolism and Cardiovascular Diseases,, 30*(9), 1409–1417. https://doi.org/10.1016/j.numecd.2020.05.020

Moore, L. (2015). *Anything goes: A biography of the roaring twenties*. Atlantic Books Ltd.

Österberg, E., & Karlsson, T. (2003). Alcohol policies in EU member states and Norway: a collection of country reports.

Parr, W., & Rodrigues, H. (2020). Cross-Cultural Studies in Wine Appreciation. *Handbook of Eating and Drinking: Interdisciplinary Perspectives*. Springer.

Quinn, B. (2020). One in three drinking less in lockdown, UK surveyfinds. Retrieved from https://www.theguardian.com/society/2020/apr/16/one-three-drinking-less-lockdown-uk-survey-alcohol Accessed on 20 April 2020.

Nadkarni, A., Kapoor, A., & Pathare, S. (2020). COVID-19 and forced alcohol abstinence in India: The dilemmas around ethics and rights. *International Journal of Law and Psychiatry*.

Rodrigues, H., & Parr, W. (2019). Contribution of cross-cultural studies to understanding wine appreciation: A review. *Food research international, 115*, 251–258.

Room, R., & Mäkelä, K. (2000). Typologies of the cultural position of drinking. *Journal of Studies on Alcohol, 61*(3), 475–483.

Rosner, D. (2010). "Spanish Flu, or Whatever it Is…".: The Paradox of Public Health in a Time of Crisis. *Public Health Reports, 125*(3_suppl), 37–47.

Simpson, J. (2004). Selling to reluctant drinkers: The British wine market, 1860–1914. *The Economic History Review, 57*(1), 80–108.

Smith, J. P., & Randall, C. L. (2012). Anxiety and alcohol use disorders: Comorbidity and treatment considerations. *Alcohol Research, 34*(4), 414–431.

Stimson, G., Grant, M., Choquet, M., & Garrison, P. (2007). *Drinking in context: Patterns, interventions, and partnerships*. London: Routledge.

Sun, S., Folarin, A., Ranjan, Y., Rashid, Z., Conde, P., Cummins, N., … & Buron, M. (2020). Using smartphones and wearable devices to monitor behavioural changes during COVID-19. arXiv preprint arXiv:2004.14331.

Taubenberger, J. K., & Morens, D. M. (2006). 1918 Influenza: The mother of all pandemics. *Revista Biomedica, 12*(1), 15–22.

The Lancet Gastroenterology & Hepatology. (2020). Drinking alone: COVID-19, lockdown, and alcohol-related harm. *The Lancet, 5*.

Thomas, L., & Drummond, A. (2020). One in three drinking less in lockdown. Retrieved from https://www.opinium.co.uk/one-in-three-drinking-less-in-lockdown/ Accessed on 20 April 2020.

Torres, S. J., & Nowson, C. A. (2007). Relationship between stress, eating behavior, and obesity. *Nutrition, 23*(11- 12), 887–894. https://doi.org/10.1016/j.nut.2007.08.008

Valencia-Martín, J. L., Galán, I., & Rodríguez-Artalejo, F. (2009). Alcohol and self-rated health in a Mediterranean country: the role of average volume, drinking pattern, and alcohol dependence. *Alcoholism: Clinical and Experimental Research, 33*, 240–246. https://www.thedrinksbusiness.com/2019/10/the-top-10-trending-cocktails-in-uk-bars/.

World Health Organization. (2019). *Global status report on alcohol and health 2018*. World Health Organization.

https://www.winegb.co.uk/history-of-the-industry/, (2020).

https://www.worldometers.info/, (2020).

https://www.statista.com/statistics/1043366, (2020).

Further reading

https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/druguse alcoholandsmoking/datasets/adultdrinkinghabits.

https://researchbriefings.files.parliament.uk/documents/CBP-8591/CBP-8591.pdf, (2021).

https://stats.oecd.org/.