

**Czech University of Life Sciences Prague**

**Faculty of Economics and Management**

**Department of Humanities (FEM)**



**Master's Thesis**

**Consumers and alcohol in France**

**Margaux GUILLEMOT**

# **DIPLOMA THESIS ASSIGNMENT**

Margaux Guillemot

Economics and Management

Thesis title

**Consumers and alcohol in France**

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## **Objectives of thesis**

The goal of the thesis is to explore the attitudes to the consumption of alcohol in France. The research questions behind this goal is: why alcohol as a drug has specific position reflected in specific attitude to this drug (e.g. legal drug in some cultures).

## **Methodology**

To achieve the goal, the thesis will conduct literature review which will outline how the link society (consumption) – alcohol is conceptualized. Using theoretical concepts found in literature, the empirical section of the thesis will start form desktop research. It will outline the institutional context of alcohol consumption in France. Furthermore, it will present descriptive statistics describing trends in alcohol consumption in France (and attempt to link them with the analysis of institutional context). This work will be complemented with the survey investigating the attitudes of the respondents to alcohol in France. The survey will provide the views of the consumers on investigated issues.

## The proposed extent of the thesis

60-80 pages

## Keywords

Alcohol, consumption, France, institutions, consumers attitudes

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## Recommended information sources

- Barned C. (2019) Alcohol and Moral Regulation: Public Attitudes, Spirited Measures and Victorian Hangovers. *Sociology of Health & Illness* 41 (7): 1464-1465
- Beccaria F., Molinengo G., Prina F., Rolando, S. (2019). Young People, Alcohol and Norms: Italian Young People's Opinions and Attitudes towards Alcohol Regulation. *Young*, 27 (4): 395–413
- Brierley-Jones L., Ling J., McCabe K.E., Wilson G.B., Crosland A., Kaner E.F.S., Haighton, C.A. (2014). Habitus of home and traditional drinking: a qualitative analysis of reported middle-class alcohol use. *Sociology of Health & Illness* 36 (7): 1054-1076
- Seutin V., Quertemont E., Scuvée-Moreau J. (2020) L'alcool en question. Collection Santé en soi. Mardaga. ISBN 9782804708436

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## **Declaration**

I declare that I have worked on my master's thesis titled "**Consumers and alcohol in France**" by myself and I have used only the sources mentioned at the end of the thesis. As the author of the master's thesis, I declare that the thesis does not break any copyrights.

In Prague on 03/31/2023

## **Acknowledgement**

I would like to thank Professor PhDr Michal Lošťák, Ph.D., for his advice and support during my work on this thesis.

# Consumers and alcohol in France

## Abstract

The aims of the thesis are to explore the attitudes of alcohol consumption in France, to realize the evolution of the alcohol consumption behaviors over time and to understand the causes of it. In the thesis a series of hypotheses entirely related to alcohol-related behaviors seeking to shed brighter light on differences in attitudes caused by fundamental people's characteristics, such as gender and age.

About methodology, the findings mainly come from quantitative methods. Hypotheses testing were conducted based on the data collected from a questionnaire administrated to 112 people. Were used Google Forms to collect the responses and SPSS application to test the hypotheses.

After conducting the analysis, it turns out that the findings are somewhat similar to other relevant articles and research published by academists and agencies, where they conclude that age is in fact a significant factor creating differences in the way people consume alcohol. Yet, this study suggests that gender, compared to age, is not such an important factor as the hypotheses testing revealed it.

**Keywords:** alcohol, consumption, France, institutions, consumers attitude

# Spotřebitelé a alkohol ve Francii

## Abstrakt

Cílem práce je prozkoumat postoje konzumace alkoholu ve Francii, uvědomit si vývoj chování při konzumaci alkoholu v průběhu času a pochopit jeho příčiny. V práci je řada hypotéz zcela souvisejících s chováním souvisejícím s alkoholem, které se snaží vrhnout jasnější světlo na rozdíly v postojích způsobené základními charakteristikami lidí, jako je pohlaví a věk.

Pokud jde o metodologii, poznatky pocházejí hlavně z kvantitativních metod. Testování hypotéz bylo provedeno na základě údajů shromážděných z dotazníku spravovaného 112 lidem. Byly použity Formuláře Google ke shromažďování odpovědí a aplikace SPSS k testování hypotéz.

Po provedení analýzy se ukázalo, že zjištění jsou poněkud podobná jiným relevantním článkům a výzkumům publikovaným akademiky a agenturami, kde docházejí k závěru, že věk je ve skutečnosti významným faktorem vytvářejícím rozdíly ve způsobu, jakým lidé konzumují alkohol. Dosud, tato studie naznačuje, že pohlaví, ve srovnání s věkem, není tak důležitým faktorem, jak to odhalilo testování hypotéz.

**Klíčová slova:** alkohol, spotřeba, Francie, instituce, postoj spotřebitelů

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# 1. Introduction

Alcohol consumption is a socially accepted and a collective practice in numerous countries, including France. France is sometimes referred to as the country of wine. Brennan (1989) explains that alcohol has played a central role in France's culture and identity construction. Alcohol consumption is closely tied to a set of rituals and events that punctuate the lives of the French: weddings, baptisms, etc. If nowadays, France is a laic country, it is impossible to deny its roots: a Judeo-Christian country. The psychiatrist Jean-Pierre Ferrant explained very well the vision of this time in an interview in 1976: “We are all, even if we are atheists, Roman Catholics. That is to say, we recognize the sacred texts as valid and if you read the sacred texts, if it has happened to you, you will read in the ecclesiastic that wine rejoices the heart of the good and grieves the heart of the bad.” (INA, 1976). And even if religion does not occupy the same place as it once did in the daily life of the French, a form of inheritance of these ideas has still been transmitted.

Alcohol also occupies a prominent place in French literary culture. Not only do poets such as Musset and Baudelaire mention it in their works, but some poets like Baudelaire, Verlaine, and Rimbaud believe that consuming alcohol can help the creative process of a poem (Diaz, 2016). Alcohol is seen as a way to reach a more enlightened view of one's surroundings. While things may have evolved since then, alcohol still occupies a prominent place in French culture. Indeed, the French language abounds of expression including the word wine. To quote a few of them, there are: “When the wine is drawn, you must drink it” (“Quand le vin est tiré, il faut le boire” in French) or “To bribe”. In French the expression « To bribe » is “Verser un pot-de-vin” which literal translation is “Pour a pot of wine”. Moreover, a more recent French writer and filmmaker named Marcel Pagnol used to say: “When the wine is drawn, you must drink it, especially if is good” (“Quand le vin est tiré, il faut le boire, surtout s’il est bon” in French).

Over time, attitudes towards alcohol changed and continue to change. Along with continuously evolving morals and customs, the attitudes towards alcohol are continuously evolving. In his paper, Brennan (1989) evokes the medieval period when alcohol was perceived to be a gift from God. In the church, wine represents the blood of Jesus. Brennan (1989) highlights then the evolution that occurred when he covers the period of the



temperance in the 19th century. At this time, alcohol was seen as responsible of poverty, diseases, and moral decadence. Nowadays, the vision of alcohol is more moderate than the one of these two eras. These changes in attitude and vision can be partly explained by the appearance of legislation on this product. Legislation that has subsequently evolved. Brennan (1989) highlights the significant role that government policies and regulations have played in shaping the French relationship with alcohol. For example, in the 20th century, the establishment of the appellation d'origine contrôlée (AOC) system helped to regulate the production and sale of wine, ensuring that only high-quality wines made from specific regions could bear the AOC label. This system has helped to maintain the high reputation of French wines around the world.

If alcohol is a real subject for the French, it is not only for cultural reasons, there are also real economic, political and legislative stakes. In 2004, a French politician by the name of Alain Juppé declared about wine, that it is a basis of French culture and that if France is not careful, the following paradox could occur: the country that invented quality wine would become the one that would produce the least. This statement shows that wine is not an industrial product but comes from the expertise of many people who have made it their profession. Nearly 500,000 direct and indirect jobs are generated by the viticulture on the French territory (CNIV, 2023). France is the world's leading exporter and the world's second largest producer of wine. It represents 17% of the total French agricultural production, which corresponds to 12 billion euros (Ministère de l'Agriculture et de la Souveraineté Alimentaire, 2022).

## 2. Objectives and Methodology

### 2.1 Objectives

The aims of the thesis are to explore the attitudes of alcohol consumption in France, to realize the evolution of the alcohol consumption behaviors over time and to understand the causes of it. On any subject, legislation, morals, and habits change over time. It happened to alcohol. The idea is to know to how, why and to what extent alcohol-related behaviors evolved. It is a known fact that the overconsumption or even the consumption of alcohol represent risks so the idea is to understand why people continue to consume alcohol.

The research objective could be presented as:

- Understand the current attitudes of French people towards alcohol.
- Understand which factors are at the origin of the differences in drinking behaviors and why.
- Understand what external factors explain the evolution of French drinking behaviors.

### 2.2 Methodology

In order to respond to the objectives of the thesis in the best manner possible, it has been decided to proceed as follows: use qualitative and quantitative analysis. To correctly evaluate the current attitudes of French people towards alcohol, a questionnaire has been designed and disseminated in order to obtain the most accurate and representative answers. The questionnaire presented different types of questions: yes/no questions, multiple choice, Linkert scale and open-ended questions. Once the answers collected, a list of hypotheses has been created to analyze the responses. The hypotheses always include the factor gender or age. There are 27 hypotheses:

1. Gender and alcohol consumption are related.
2. Age and alcohol consumption are related.
3. Gender and alone drinking behavior are related.
4. Age and alone drinking behavior are related.
5. Gender and binge drinking are related.

6. Age and binge drinking are related.
7. Gender and weekly alcohol consumption are related.
8. Age and weekly alcohol consumption are related.
9. Gender and social pressure to drink are related.
10. Age and social pressure to drink are related.
11. Gender and perception of one's drinking as problematic are related.
12. Age and perception of one's drinking as problematic are related.
13. Gender and perception of alcohol as a drug are related.
14. Age and perception of alcohol as a drug are related.
15. Age and receiving prevention about the dangers of alcohol use and its consequences are related.
16. Gender and the time of day of alcohol consumption are related.
17. Age and the time of the day of alcohol consumption are related.
18. Gender and consuming 5 or more drinks in the same occasion are related.
19. Age and consuming 5 or more drinks in the same occasion are related.
20. There is a difference in the age of the first alcohol consumption according to gender.
21. There is a difference in the age of the first alcohol consumption according to age.
22. There is a difference in the frequency of home drinking according to gender.
23. There is a difference in the frequency of alcohol consumption in bars and restaurants according to gender.
24. There is a difference in the frequency of alcohol consumption in a private environment (excluding the respondent own home) according to gender.
25. There is a difference in the frequency of home drinking according to age.
26. There is a difference in the frequency of alcohol consumption in bars and restaurants according to age.
27. There is a difference in the frequency of alcohol consumption in a private environment (excluding the respondent own home) according to age.

The relative important number of hypotheses can be explained by the fact that almost all hypotheses are tested once for the gender criterion and once for the age criterion.

To correctly analyze the data collected and confirm or deny the hypotheses, a statistical analysis using the SPSS application has been done. Considering the nature of the data, two

different tests have been performed: Chi-square tests and T-tests. Formulas for Chi-square tests and independent T-tests are presented below, according to Berger & Casella (2021).

Chi-square test (1)

$$X^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

Independent T-test (2)

$$T \text{ value} = \frac{(\bar{X}_1 - \bar{X}_2)}{\sqrt{\frac{s_p^2}{n_1} + \frac{s_p^2}{n_2}}}$$

The level of significance considered is equal to 5% as a basis for the hypotheses testing.

### **3. Literature Review**

#### **3.1 Alcohol, industry, and health: a comprehensive exploration of attitudes, behaviors, trends, and medical advancements**

##### *3.1.1 Alcohol consumption: a theoretical conceptualization of attitudes and behaviors*

Many authors have attempted to find a theoretical framework that could be applied to the various behaviors caused by alcohol and the different causes that explain them.

In his article, Freed (2010) explains that the sociology of alcohol and drug problems must be studied and understood in a multidisciplinary manner. From the beginning, he also affirms that problem drinking cannot be based solely on a biological explanation of heredity. In order to theoretically analyze the sociology of drinking problem, he decided to divide his research into three parts: a socio-cultural perspective, a socio-environmental perspective, and an ideological perspective. To develop the first part, Freed uses the writings of Horton (1943). Horton (1943) explained that in modern society, poverty, job dissatisfaction and powerlessness cause alcohol problems because as Rorabaugh (1979) said, when people face events causing anxiety, they turn to alcohol for relief. About the socio-environmental perspective, Freed (2010) details that the place in which people are located will create norms about the type of alcohol they drink and the places where they drink it. Finally, when addressing the ideological perspective, Freed (2010) uses a quote from Courtwright (2001) that says, "What we think about addiction very much depends on who is addicted". It shows that addiction is above all a social construction.

In their article, Brierley-Jones et al. (2014) also try to provide a framework and to theorize attitudes and behaviors of people when consuming alcohol. They focus on middle-class people and have managed to distinguish two typical behaviors: the home drinking habitus and the traditional drinking habitus. Each habitus has its specificities. In the home drinking habitus, people are more likely to be women and the alcohol of choice is wine. The home drinking habitus is portrayed as respectable and sophisticated. On the other hand, in the traditional drinking habitus, people are more likely to be men and to drink beer, lager or spirits mainly at weekends and in large quantities. If in the writing of Freed (2010), the society and constructed social norms are at the heart of the reasons explaining the behaviors

of people facing alcohol, Brierley-Jones et al. (2014) have similar and different reasons to explain the existence of these two specific behaviors. They develop four main reasons: the birth of children, the family environment, the social environment and finally education. According to the focus groups used in the study of Brierley-Jones et al. (2014), the drinking patterns of parents were viewed as influential regarding what to drink, where and how. The study also explains that a transition from traditional drinking habitus to home drinking habitus is real especially when people face parental responsibilities. Moreover, this transition from traditional drinking habitus to home drinking habitus appears to be particularly associated with university education as the lifestyle evolves and along with it the drinking habits. However, one of the factors developed by Brierley-Jones et al. (2014) is also developed by Freed (2010): the socio-environmental factor. Brierley-Jones et al. (2014) also highlight the fact that the patterns of drinking were seen as part of a tradition that was shared in a community and handed down between generations.

Finally, the different writings enable to highlight the importance of society and social norms in the creation of specific attitudes and behaviors related to alcohol. Moreover, it is noticeable that different ways of cuttings exist when deciding to theorize alcohol-related behaviors. However, it remains difficult to find specific and relatable behaviors as a lot of sociologic factors are involved.

### *3.1.2 The French champagne, beer, liquor and wine industry*

If the cultural inheritance of alcohol and especially wine is that highlighted it also due to the economic strength the alcohol market represents.

In 2022, the alcohol market represented 43.14 billion USD in the French economy (Statista, 2023) with the following breakdown:

- 24.12 billion for the wine industry
- 9.49 billion for spirits
- 9.28 billion for beers

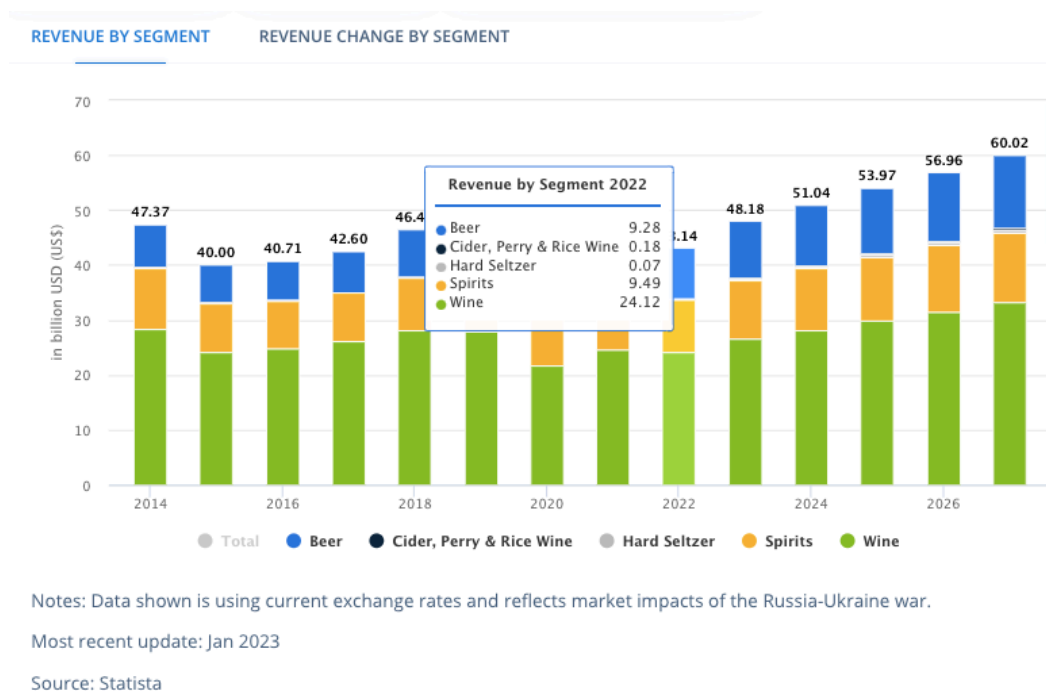
Still in 2022, the export value was 8.7 billion euros (Ministère de l’Agriculture et de la Souveraineté Alimentaire, 2022), putting France as:

- 1<sup>st</sup> world exporter of wine

- 2<sup>nd</sup> world producer of wine

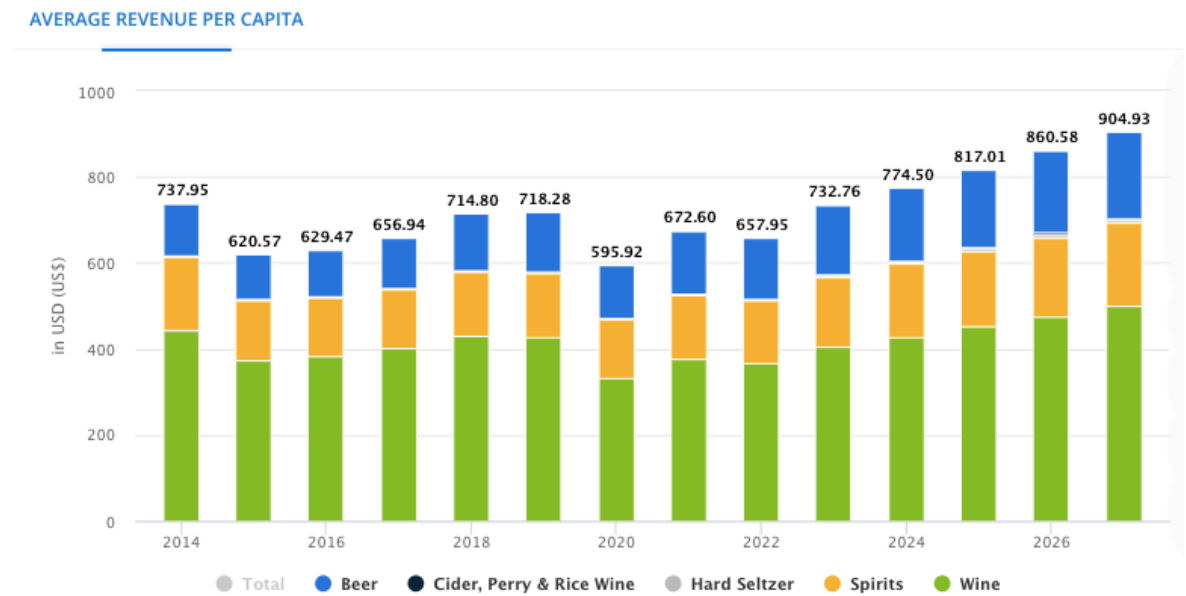
On the following graph we can see the evolution since 2014 of the revenue by alcohol segment (Beer, Wine, Spirit, Cider, Perry & Rice Wine, Hard Seltzer) in billion USD. The graph also contains a forecast up to 2027. A domination of the wine market over the beer and spirit ones can be observed from the data.

Figure 7: Revenue by alcohol segment in billion USD over the period 2014-2027 with a focus on 2022



In 2008, French households spent 15 billion euros on alcoholic beverages representing 1% of their budget and 8.6% of the "food" budget (Santé publique France – Alcool Info service, 2018). The following Statista graph shows the amount spent per capita each year in USD. As expected, due to the pandemic, the amount spent in 2020 is lower than usual. But once again, it rises again as of 2021 and should keep increasing until 2027 at least.

Figure 8: Evolution of the average revenue for alcoholic drinks per capita in USD in France over the period 2014-2027



Most recent update: Jan 2023

Source: Statista

It seems that the alcohol French market has a bright future ahead.

However, if the alcohol market is important in France, it benefits mainly to the private companies. The social cost of alcohol is estimated at 120 billion euros in France but taxes on alcohol represent only 37% of the care costs (Kopp, 2015). Thus, the alcohol-linked expenditures impoverish the French state.

### 3.1.3 The rise of medicine

If nowadays, the specialists and a vast majority of the population recognize alcohol as a drug, it took a long way to get there. It was and, in some aspect, it is still a common idea that a moderate consumption of alcohol can be “good for your health”. François Eisinger, a Professor in Medicine, perfectly summarized the situation: “For a long time, we lived in the myth, perhaps in the hope, that having a drink from time to time was good for our health” (Gillet & Mossé, 2009). Whereas in fact, the scientists agree to say that alcohol consumption – including wine – was harmful even if it is small quantities (Griswold et al., 2018). It took a long time to make people understand that alcoholism is an addiction, a disease and not only



a mental weakness reserved to a few. We can even go further saying that alcoholism is neither natural, cultural nor fatal, it is above all a social construct (Gillet & Mossé, 2009). If nowadays, this idea is not an aberration anymore, in the INA Archive of a documentary for the French TV news in 1973, a woman interviewed shared the following memory: “I went all the way to a mental institution just because I went to social security to ask for a detoxification treatment”. Alcohol addiction was not perceived and treated under the proper scope. “Alcoholic diseases until now have always been considered as moral problems and not as diseases that belong to medicine” (INA, 1976).

Besides the notion of addiction and the fact that alcoholism must be treated as such, there are direct and visible consequences on people’s health. Alcohol is estimated to be responsible for 41.000 deaths in 2015 in France (Shield et al., 2018). It is the second avoidable mortality cause after tobacco. In order to be able to follow this indicator through time, the data rely on three causes that are considered to be the most likely linked with alcohol: alcoholic cirrhosis, upper aerodigestive tracts cancers and alcohol-related mental illness (Palle, 2020). However, it is not a new phenomenon. Already in 1954, Pierre Mendès France decided to take measures when he was the Council President, when he realized that cirrhosis and delirium tremens were responsible for 18.000 deaths every year (Seligmann, 2009). A study based on 2012 data showed that alcohol was the first cause of hospitalization (Paille & Reynaud, 2015).

To incentive people to reduce their alcohol consumption and even to stop it, France followed the Dry January initiative born in the United Kingdom. The idea of Dry January is to stop alcohol consumption during the whole month of January following the New Year night where the amount of alcohol consumed is often very high. In France, the initiative was named January challenge and really appeared in 2020. The idea came from different associations such as the French Society of Alcoholology, the French Federation of Addictology, the National League against Cancer. However, it is important to notice that this action was not supported by any kind of public authorities. According to some surveys, 10% of French people are trying the experience in 2021 (Delouche-Bertolasi, 2022) and 24% in 2022 (Julia, 2022).

In definitive, the care and support towards people being harmed by alcohol either mentally, through addiction or physically through diseases greatly evolved in the last decades even if progresses still can be done. But it comes at a price. It is estimated that the social cost related to alcohol represents nearly 118 billion of euros (Kopp, 2015). In our case, the social cost can be defined as following: it is the monetary cost of the consequences of alcohol consumption.

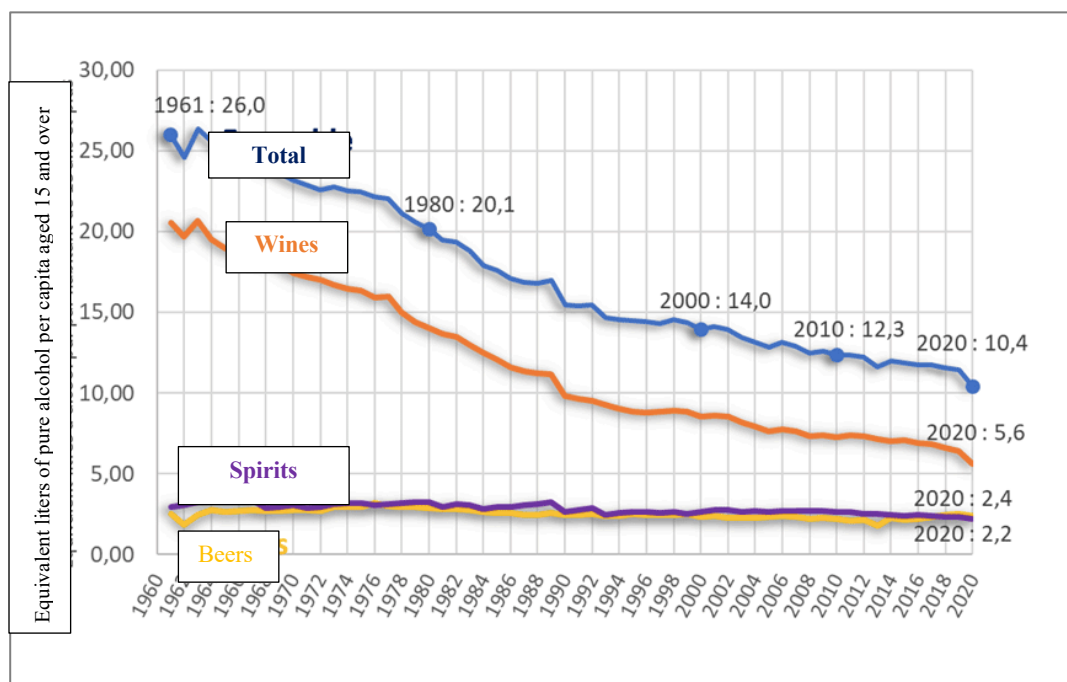
### 3.2 A change in the way alcohol is consumed and perceived by French people

#### *3.2.1 A decline in quantity*

For a long time, France detained the world record of alcoholism. In the INA Archive of a documentary for the French TV news in 1973, it is shown that the death rate from alcoholism in 1965 per 100,000 population was: 0.1 for England, 0,2 for Holland, 1 for Germany, 1.4 for the United States and 12 for France. Not only France was at the top of this disastrous ranking, but the country was competing in a whole different category. At this time, French people consumed 26 liters per habitant of pure alcohol every year (OFDT, 2021). A drastic change occurred (Gual & Colom, 1997).

Since the 1960's, the alcohol consumption of French people is diminishing increasingly. As the following graph shows, in 1961, French people consumed 26 liters per habitant of pure alcohol, in 1980 it dropped at 20, in 2007 at 13 and in 2020 at 10,4 (Marigny, 2009).

Figure 1: Evolution of the equivalent liters of pure alcohol per capita aged 15 and over (1960-2020)



Source: OFDT

One of the reasons behind the decrease lies in the decline of wine consumption. Indeed, the consumptions of liquors and other alcohols (cider, perry and port wine) stayed the same whereas the consumption of beers tends to remain the same or even to slightly increase. The following table illustrates this evolution.

Figure 2: quantity of alcohol available for sale (in liters of pure alcohol equivalent) per capita aged 15 years and over per year, 2000-2020

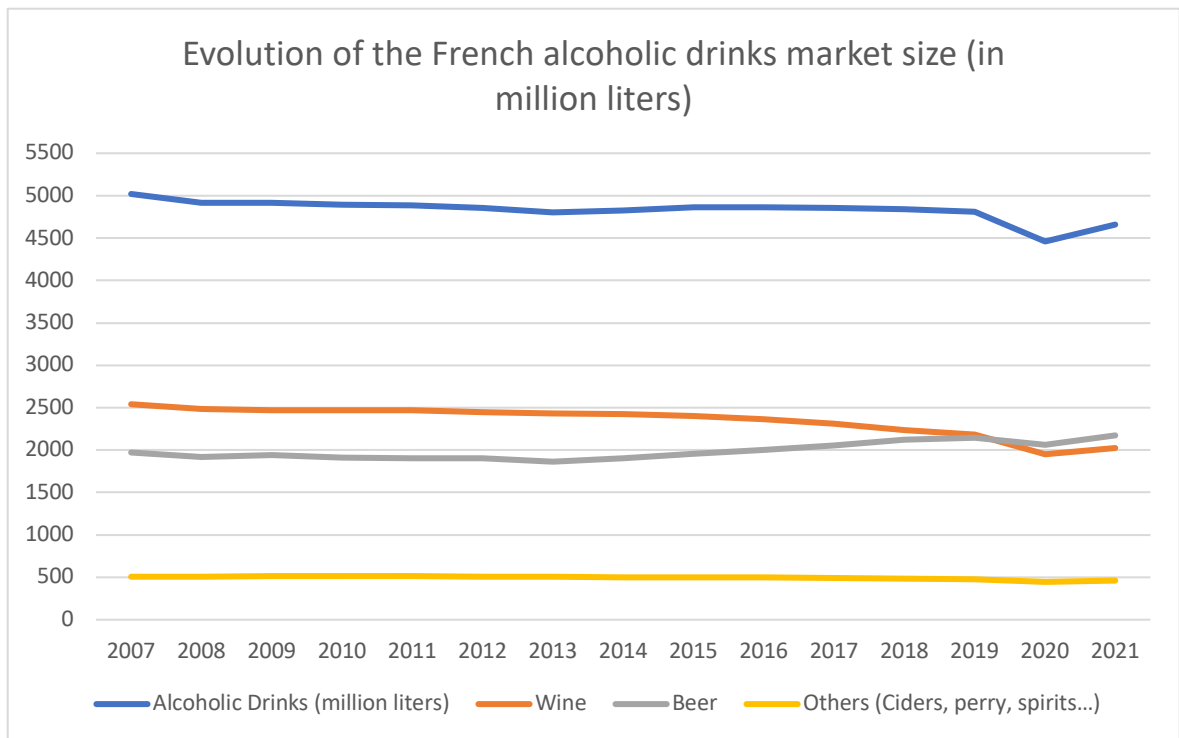
	Wines	Beers	Spirits	Others	Total
2000	8,54	2,31	2,66	0,41	13,92
2001	8,62	2,36	2,76	0,41	14,15
2002	8,52	2,25	2,74	0,41	13,92
2003	8,17	2,29	2,65	0,34	13,45
2004	7,94	2,24	2,67	0,29	13,14
2005	7,65	2,31	2,62	0,28	12,85
2006	7,75	2,40	2,70	0,27	13,12
2007	7,60	2,33	2,72	0,24	12,89

2008	7,33	2,18	2,72	0,24	12,47
2009	7,41	2,25	2,70	0,24	12,61
2010	7,27	2,18	2,65	0,23	12,33
2011	7,41	2,10	2,64	0,22	12,38
2012	7,33	2,15	2,54	0,22	12,24
2013	7,13	1,80	2,50	0,21	11,65
2014	7,04	2,26	2,47	0,20	11,98
2015	7,09	2,16	2,42	0,20	11,87
2016	6,90	2,21	2,43	0,20	11,74
2017	6,79	2,30	2,41	0,19	11,68
2018	6,59	2,43	2,35	0,19	11,55
2019	6,44	2,52	2,30	0,18	11,43
2020	5,62	2,38	2,38	0,16	10,38

Source: OFDT

So, the fall in alcohol consumption originates from the wine consumption decline. It seems that nowadays people prefer to buy a better-quality wine bottle even if it means to drink less often (Palle, 2020). Below is a graph tracing the alcoholic drinks market size with a special attention to beers and wines over the last 15 years.

Figure 3: Evolution of the French alcoholic drinks market size (in million liters) over the period 2007-2021



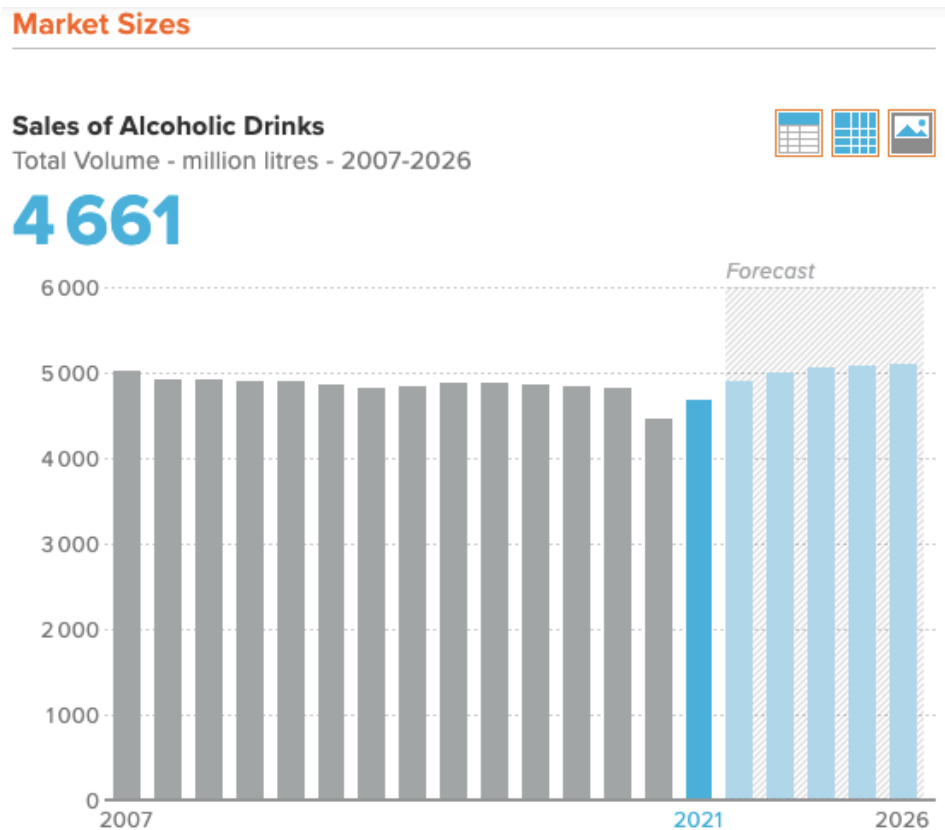
Source: own processing based on Euromonitor International data

Through the graphic, three trends can be extracted. The first one was already mentioned: the permanent decrease in the quantity of alcohol consumed. Even though, we can notice that the decrease is diminishing and resembles more to a stagnation. The second trend was also mentioned previously: with time, beer implements itself increasingly more in a traditional wine country. And the third trend concern the change that occurred during the coronavirus crisis.

In 2020, the decline in alcohol sales and thereby consumption is significant. Indeed, the sales of alcohol drinks dropped to 4 450 million liters. It has been the lowest level measured ever. During the 2010 decade, it never dropped under 4 800 million liters (Euromonitor, 2022). This phenomenon seems reasonable as France and most countries in the world encountered lockdown and curfew periods. French people were constrained to stay at home and at this time and even after the end of the first lockdown – which occurred from the 17<sup>th</sup> of March 2020 to the 11<sup>th</sup> of May 2020 – restaurants and bars were closed. It means that alcohol consumption was only possible in a private environment within the household.

It deeply influenced the sales and the consumption of the French population regarding alcohol. In a survey realized by Santé publique France during the first lockdown, the following figures can be observed: among the alcohol consumers surveyed 11% declared that their alcohol consumption increased, 65% that it remains the same and 24% that it diminished (MILDECA, 2020). If at first, the survey results seem positive as almost a quarter of French population reduced its alcohol consumption, precautions must be taken; indeed, two sorts of consequences seem to arise from this worldwide pandemic. Moreover, as soon as the peak of the pandemic ended – by the end of 2020 – alcohol consumption rose again in 2021. Some forecasts even predict a continuous increase in alcohol consumption for the next years.

Figure 4: Sales of Alcoholic drinks in million liters over the period 2007-2026



Source: Euromonitor International

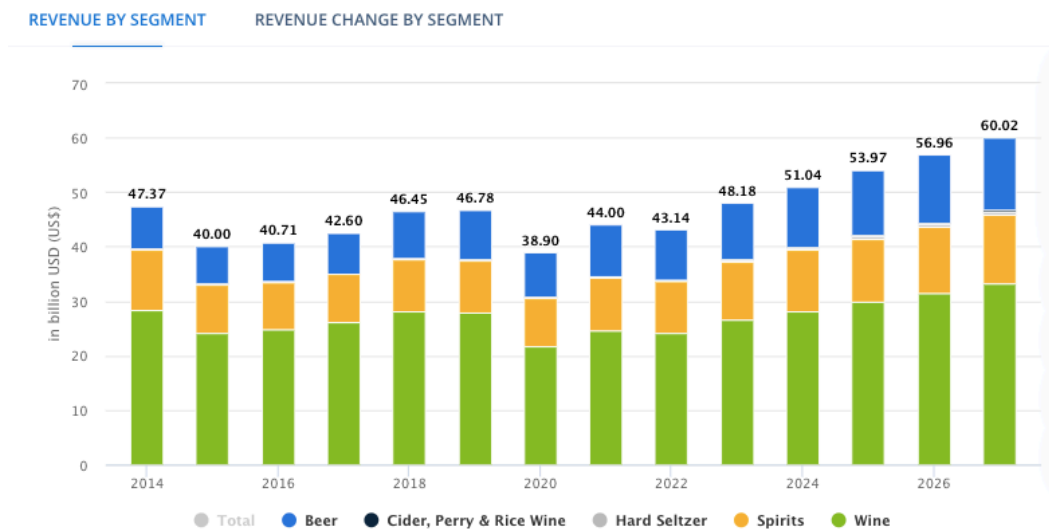
The forecast is the following:

Year	Sales of alcoholic drinks in million liters
2022	4888,0

2023	4995,3
2024	5045,7
2025	5069,0
2026	5086,1

The following graph seems to confirm the forecast. Even though, the information are not in the number of alcoholic drinks sold but in revenue generated in billion USD by alcoholic drinks. However, an easy link can be established between the two data: the revenue generated rises with the number of sales. So, it seems feasible to make a comparison between the data. Both data join up on the future alcohol consumption trends. After a shot diminution due to the specific conjuncture of 2020, the alcohol consumption will go up again at least until 2026-2027. Moreover, the graphic confirms the rise of beer consumption in the French market.

Figure 5: Revenue by alcohol segment in billion USD over the period 2014-2027



Notes: Data shown is using current exchange rates and reflects market impacts of the Russia-Ukraine war.

Most recent update: Jan 2023

Source: Statista

According to the forecasts, the sales of alcoholic drink will constantly grow during the next five years. What is noticeable, is that the level it will reach is not the one observable from the pre-pandemic, it is expected to be superior. If we consider the Covid-19 crisis as the trigger of the future rise in alcohol consumption, then two behavior trends seem to emerge.

The pandemic crisis created an unprecedented environment. People faced lockdowns which were accompanied for an important part of the population with a stop of the professional activity or at least a partial unemployment. This extraordinary and unknown situation created a special psychologic environment. Indeed, people had to cohabit with their thoughts. During this period, many people took stock of their lives. What their future would look like. What the earth future would look like. How the sanitary and economic situation would evolve... If for a part of the population, this thinking led to positive outcomes, for others it has created or developed anxiety, depression, or insomnia patterns (S. K. Brooks et al., 2020). And we know that alcohol has an anxiolytic, antidepressant, relaxing and sedative effect (Gavurova et al., 2020) that can fight the toxic patterns highlighted by the pandemic and the governmental measures taken and faced by a part of the French population. Thus, it is possible that quarantine created new alcohol-related behavior especially with people that have suffered from generalized anxiety disorder and depressive symptoms. The consequences could only be observed in the long term as a study shows that the psychological and social effects that the strict sanitary measures and lockdowns created, remain visible several years after the end of the crisis (Calina et al., 2021).

The growth of alcohol consumption seems logical for the years 2021 and 2022. Indeed, after a long time with restrictions, when they ended, people felt the urge to enjoy all the leisure of which they had been deprived. Among these leisure activities, spending time in bars and cafés is most probably included in. However, this logical explanation is insufficient to explain the continual increase of alcohol consumption for the years 2023, 2024, 2025 and 2026. It is also insufficient to explain the fact that the consumption level should exceed the one of pre-pandemic. Previously it has been said that generalized anxiety disorder which emerged from the situation created by the restrictions linked to the coronavirus crisis could lead to new behavior towards alcohol. On another hand, it is possible that people have readjusted their priorities. The sanitary crisis highlighted our human conditions and our mortality. Thus, some people decided to have a new balance between their personal and professional life. It could lead for them to spend more time with family and friends and by extension to a possible alcoholic consumption in their company.



### 3.2.2 *A change in the way of consumption*

It seems to have had a change in the way alcohol is now consumed in French society. For the generation born between 1935 and 1950, alcohol was considered, especially wine, as a table alcohol. At every meal it was very common to consume at least one glass of wine. However, it is important to specify that for a long time, the percentage of pure alcohol in the wine was lower than nowadays. It allowed this image of wine as “the healthiest and most hygienic drink” as Louis Paster said, especially at a time when water was highly polluted. However, with time Louis Paster himself nuanced its own words saying: “unfortunately, the hygienic properties of the wine, one cannot hide it, are altered by an increase of its alcoholic element” (Godard, 1972).

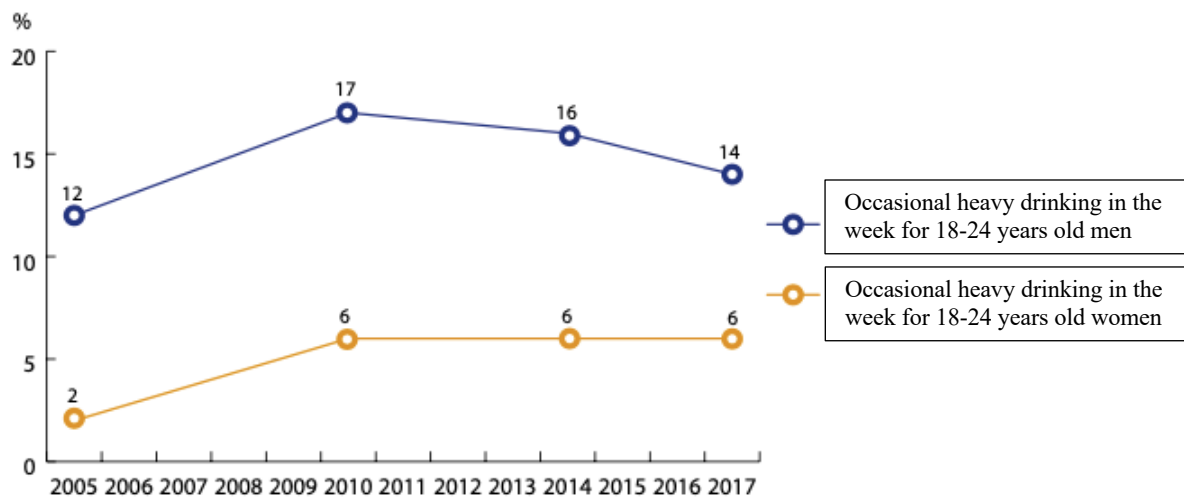
Until the 1970’s, alcohol and its consumption were part of the daily life. In the INA Archive of a documentary for the French TV news in 1973, some French man declared “wine is not really alcohol, it is a food if you want” and a woman declared “there is always a good bottle on the table”. It shows how deep the place of wine was for French people. If the man words seem irrelevant now, it is important to grant him some credit. Indeed, for a long time, due to the way it was consumed, wine was really similar to a solid ingredient as people used to add cereals and fruits in it (Poux, 2004). But with time and due to the complex process required to get a good beverage, wine became to start increasingly more a drink than food.

Alcohol was present in the daily life of people. However, it didn’t necessary mean that people consumed it in high quantity. And this is where, one of the shifts occurred. Nowadays, alcohol is rarely present in the daily life but when it is consumed, it is often done in higher quantity. It is especially true for the youth. The level of occasional heavy drinking (API in French), also named binge drinking during the week of the young adults is higher in 2017 than it was in 2005 (Palle, 2020). It seems to lead to the following pattern: people drink less often and in definitive less but when they do, they tend to drink a higher quantity. It might be one of the reasons that could explain why the feeling of drunkenness is constantly increasing. In 2017, 28.6% of the population aged 18 to 75 reported being drunk at least once in the year compared to 21.8% in 2000 (Palle, 2020). However, this indicator must be taken with caution as it depends on the social representation of intoxication, and it has for sure evolved through the last decades. Apart from the occasional heavy drinking issue particularly

present among young adults (Martini, 2009), it seems that people prefer to leave cheap and often poor-quality wine, that can be considered sometimes as wine table, and to buy instead higher quality wine even if it is less regular (Palle, 2020). However, this trend might be more relative when it comes to the youth as the way wine is marketed is different and the criteria from the youth are different: low price is valued.

The second change that can be observe is the way women now consume alcohol and the evolution through time. It is important to emphasize the fact that French people consume less alcohol in quantity nowadays. However, it is also necessary to consider the evolution of women alcohol consumption. Along with the social evolution of women’s place in society, the relation between women and alcohol evolved. In the INA Archive of a documentary for the French TV news in 1973, a woman interviewed declared: “a French woman when she drinks, she hides, it is not like for men, she is ashamed”. We can see the cultural and societal weight that women carried. Of course, with the independence that women gained in society, the way they apprehend alcohol consumption changed, and it became a less shameful and a more opened consumption. The following graphic illustrates that fact showing a reduction in the gap in the consumption behavior between men and women.

Figure 6: Percentage of the population aged 18-24 who reported an occasional heavy drinking during the week over the period 2005 - 2017



Source: Public Health France health barometer surveys

### 3.3 The evolution of legislation through time

#### 3.3.1 *The first actions*

In France, the most known law related to alcohol regulation is the Évin law of 1991. However, other actions have been taken previously. It is in 1870 that the issue of alcoholism and how to fight it appeared in France. At that time appeared the first statistics showing the progression of alcohol consumption and its consequences (accidental deaths, suicides, crimes...). It is in this context that in 1872 was created the French Association against alcoholic drinks abuse. Quickly, a first law was created and enacted: in 1873, a law against public drunkenness was promulgated. Then in the following years, the fight against absinth started. The beverage was finally forbidden at the beginning of first World War. In those years, the Association became The French Temperance Society. It was recognized of public utility in 1880. They promoted temperance in numerous professional frameworks such as schools, army (Durouchoux, 2009) ...

In 1905, it became the National League Against Alcoholism. The League advocated for bigger taxes on alcoholic drinks. If the Association that became later the League managed to make progresses before each World War, the progresses were lost at the end of each of them. About this period, it has been said: "The reconstruction of France will be accompanied by a gradual realcoholization that leads to a record consumption in 1957" (Craplet, 2004).

Faced with these failures, the League reorganized and changed its name once again. It is now the National Committee for the Defense Against Alcoholism. It brought a new impetus. The Committee affirmed several ideas at this time: firstly, alcoholism is a disease not a vice, secondly there is a real need to recommend sobriety in the consumption of alcoholic products and thirdly they reaffirmed that the production and distribution of alcoholic products and alcoholism problems are closely linked. They investigated several actions over the years. In 1952, they organized an international congress which led to the Social Security to grant financial assistance. All the measures taken have made possible to create a change of the public opinion on the alcohol topic (Durouchoux, 2009).

#### 3.3.2 *New regulations implemented to control alcohol use and sales*

Even though, the first actions and demands concerning regulations on alcohol emerged way before the end of the 20<sup>th</sup> century, "No government has dared to take these

measures” as M. Faurobert from the Alcoholism Public Information Centre summed up in a survey for French TV in 1973 (INA, 1973). He was referring to the fact that alcoholic beverage often cost less than nonalcoholic ones such as juices due to the fact that they are less taxed. For him, it was at this level that governmental measures should be taken.

In 1987, the Barzach law was adopted. With this law, the legal regime of advertising became the same for all alcoholic beverages. Advertising was totally prohibited on public and private television channels television channels, in publications intended for youth, and in sports venues. All advertising should include a recommendation for moderation (Elineau, 2015).

The turning point in France is the Évin law adopted in 1990 and enacted the 10<sup>th</sup> of January 1991. This law is named after the ministry of Health of this time – Claude Évin – who instigated it. The aim of this law is to fight smoking and alcoholism. Regarding alcohol, it severely limits the right to advertise alcoholic beverages in order to protect young people from marketing operations. In the continuity of the Barzach law, the Évin law made obligatory the health warning “alcohol abuse is dangerous for your health” (“L’abus d’alcool est dangereux pour la santé” in French).

Besides, in the beginning of the 2000’s, alcohol and tobacco have been integrated in the scope of actions of the Mission Interministérielle de Lutte contre la Drogue et la Toxicomanie (MILDT) that can be translated as Interministerial Mission for the Fight against Drugs and Drug Addiction. It shows a change in the attitude from the official authorities. Since 2002, the government mobilize itself on the issue of road safety. The next year, a Cancer Plan is launched putting for these two subjects an emphasis on the risks issued by alcohol. In 2005 is even held General States on alcohol, proving that a real focus is made on the alcohol topic.

The second important bill concerning alcohol restriction is the Hospital, patients, health, territories bill also named bill HPST (from the French name Hôpital, patients, santé, territoires) or bill Bachelot from the name of Roselyn Bachelot the minister of Health, Youth, Sports, and Associative Life of that time. The bill was first presented the 22<sup>nd</sup> of October 2008 and was finally enacted the 19<sup>th</sup> of July of 2009. The bill focuses on measures to

improve the health of young people. Concerning alcohol, it has been voted the full interdiction to sell alcohol to minors (people under 18) whereas it was 16 previously. Moreover, the sale of alcohol in gas station has been limited during the day and forbidden during nighttime.

However, if these laws are important steps forward, there are a lot of steps backwards on the path to regulate alcohol consumption, prevention, and advertisement, starting with the bill HPST itself. Even though some deputies wanted to forbid alcohol advertisements on websites, Roselyn Bachelot herself tried to convince deputies to spare advertising agencies (Seligmann, 2009). In the end, advertisers have been authorized to advertise alcohol on the web except on websites dedicated to young people and on sport associations websites. This freedom granted to advertising agencies is a real loss for many, as internet is extremely consumed by young people (Versini, 2009). Unfortunately, it is not the only steps back that occurred during the last decades. In fact, as early as 1994, amendments to weaken the Évin law have followed one another. The first one in 1994, allowed to restore the total freedom of display including in sport stadiums; meaning that alcohol billboards in all public places are allowed again. Another step back worth mentioning occurred in 2016. This year, the article 16 of the law on the modernization of the health system stipulates that content related to a region of production or to the cultural, gastronomic or landscape heritage linked to an alcoholic beverage does not fall within the scope of advertising and propaganda. It concerns many products (vodka, whisky, rums, wines, beers, etc.). Communicating on these types of content therefore allows to escape the scope of application of the Évin law (Basset et al., 2021).

It is not only at the French level than the changes are small and controversial. It is also the case at the European one. Indeed, at the end of 2007, European deputies finally gave up demanding common alcohol risk labelling rules (Seligmann, 2009). Hiltrud Breyer – a German Eurodeputy – then declared: “the European Parliament gives in to the alcohol lobby and sends the wrong signal in the fight against alcohol-related harm in all its forms throughout Europe”.

### 3.3.3 *A perpetual backlash: the power of the lobby*

If the French legislation is perpetually going back and forth around the topic of alcohol it is mainly due to the French alcohol lobby.

In 2011, the advertising expenses for promoting alcoholic drinks are estimated at 459 million euros. It is 100 times more than the budget of the National Institute of Prevention and Health Education for prevention campaigns on alcohol consumption (Basset & Rigaud, 2016). In 2016, the alcohol industry spent 454,6 million euros for direct advertisements. In 2017, even if it dropped it remained important with 369,2 million euros spent (Basset et al., 2021). In reality, the amount is even bigger as the advertising realized on the internet is not considered. These figures show the power of the lobbies and the imbalance between the private financial resources and the public ones.

As mentioned previously, the mentalities towards alcohol perception evolved greatly in the last decades. As a result, the lobbies' strategy also evolved. They use different techniques and strategies. If previously, the strategy was mainly oriented on the cultural and religious inheritance, nowadays the tactics are more subtle and diversified. It is possible to distinguish several sorts of techniques.

First, there is data manipulation through three different ways: valorization of favorable information, biased information, and misinformation.

About the valorization of favorable information, they use the French paradox. The French paradox is the idea that French people eat fat saturated food and drink alcohol, mainly wine but paradoxically they have a strong health especially concerning cardiovascular diseases whereas the usual French consumption of fats and alcohol should weaken their cardiovascular system (Simon et al., 2019). Thus, the lobby's strategy can be associated to a syllogism. French life expectancy is one of the highest in the world, French alcohol consumption – especially wine consumption – is considerable so alcohol consumption is good for the health and enhance longevity. However, it is easy to see the flaws of this argumentation: life expectancy is the result of multiple factors. Moreover, a lot of counterexamples exist with countries like Japan or Norway whose life expectancy is higher and wine consumption lower (Basset & Rigaud, 2016).

Concerning biased information, they maintain their communication around the fact that alcohol consumption provides a coronarian protection effect, but they don't mention the fact that alongside with the protective effect, there is a concomitant rise of cancer risks. Furthermore, when the Barzach law made it mandatory in 1987 to add the mention of a moderation advice, the alcohol lobbies chose carefully their words saying: "Know how to enjoy and consume with moderation" ("Sachez apprécier et consommer avec modération" in French). If the end of the sentence does reflect the requirement of the law, the message in the first half appears to be almost antinomic. Indeed, it almost seems to be an invitation to consume alcohol. Later, when the Évin law of 1991 made mandatory the explicit mention of "Alcohol abuse is dangerous for the health" ("L'abus d'alcool est dangereux pour la santé" in French) they decided to add the sentence "To consume with moderation" ("À consommer avec modération" in French). The idea is to minimize the danger encountered when drinking alcohol to focus on the consuming part (Basset & Rigaud, 2016).

About, misinformation, the goal is mainly to instill doubt. That is why on the Wine & Society website it is possible to see the result of a study they pay for to contest or minimize the consequences of alcohol consumption. The problem is that for some people it appears to be a real study even though the study is not published in its entirety so the methodology cannot be evaluated, some authors and experts are not quoted, the data used are not the public data provided by the National Institute of Cancer but their own data...

Even if these methods can appear to be immoral, they remain legal, and their only purpose is to create enough doubt in the consumers' mind in order to maintain a good level of alcohol sales.

In the continuity of manipulating information, they use a denial strategy especially to contest established data. Jean-Robert Pitte, president of the Wine of France Academy declared: "Up to three glasses per day for men and two for women, alcohol is good for your health.". This declaration induces the fact that there is a threshold until which consuming alcohol causes no harm and would even be beneficial for the health. However, on the promotional sign of Santé publique France it is written: "For your health, alcohol is maximum 2 drinks per day and not every day" (MILDECA, 2020). The amount of alcohol is already different between the Mr Pitte and the recommendation of Santé publique France. Furthermore, the recommendation of the World Health Organization (WHO) is even stricter as they indicate that the risks on the health when consuming alcohol, start from the first drop.

Moreover, they specify that for the moment no evidence exists proving that below a certain amount of alcohol there is no risk concerning carcinogenic effects. It goes even further saying that there is no proof showing that the potential benefits from alcoholic drinks on cardiovascular diseases and type 2 diabetes is superior to the risk to develop cancers from the same alcohol consumption (WHO, 2023). Thus, giving the incentive to drink two to three drinks per day is in total contradiction with the French government but also the WHO itself.

Besides denying established data, the lobbies also use a denial technic on the price effects. The alcohol lobby denies the link and the influence of price on alcohol consumption. However, according on a basic law of economy, the higher the price goes, the lower the demand will be. So, according to the law of demand, if the price rises, the alcohol quantity bought should drop. It seems then hard to deny the influence of price on alcohol consumption. However, the only doubt that can be issued is that this law may not be applied in the case of addictive substances such as alcohol. Nonetheless, some research proves that some links between price and alcohol consumption especially for the youth and the young adults exist. Concerning the youth, most of the studies estimates that the higher the alcohol price is, the lower the probability, frequency and level of drinking will be (Chaloupka, 2004). Moreover, for young adults and especially college students, it turned out that the higher the alcohol price was, less likely the students were making the transitions from abstainer to moderate drinker and from moderate drinker to heavy drinker (Williams, 2002).

On a more political and social scope, alcohol lobbies use two different technics to promote their products. First, on a social level, the argumentation of the alcohol lobbies is based on the fact that alcohol abuses and excessive behavior are not a collective issue but an individual one. The responsibility is individual. They promote then the responsible consumption. However, the idea behind promoting a responsible consumption is to minimize the psycho active effect, the advertisements realized, the price offered, the offer's availability (Basset & Rigaud, 2016) ... Besides, to stigmatize some people as excessive drinkers does not reflect the reality of the situation. Excessive drinkers are not anomalies they are taking part into a consumption continuum. On a more political level, in order to have as much impact as possible on political decisions, alcohol producers decide to regroup themselves into interest groups. In France there are Vin & Société, a French association representing "500,000 actors of the vine and wine", or the association Prevention and Moderation created



in 2019 by Brasseurs de France, the French Federation of Spirits, and the French Federation of Aperitif Wines (Basset et al., 2021). Vin & Société is one major lobby in France, and it counts 21 regional interprofessional organizations and 7 national professional organizations (Basset & Rigaud, 2016).

One other specificity of the alcohol lobby is the way they handle their products, its promotion, the laws, and the youth. It is an ambiguous and controversial relationship. It is clearly forbidden for people under 18 to buy alcohol. However, not only minors do consume alcohol before this age but many of them have already bought it even though it should not be possible. Besides, even if it becomes legal to buy and consume alcohol from the age of 18, it has been proved that alcohol consumption especially binge drinking behaviors have detrimental consequences on the brain maturation. Yet, the brain maturation ends between 20 and 25 depending on people. (Smith et al., 2017). Alcohol lobbies, even though they claim they want to protect the youth and young adults from the dangers of alcohol – thus recognizing the risk of such beverages – cannot allow a situation where such an important part of the population could be alarmed and convinced to reduce their alcohol consumption.

Indeed, the youth remains a prioritized target as they represent the future generation of consumers (Basset et al., 2015). And as for any other market, alcoholic companies also need to renew their customers. Moreover, consumption habits taken around the age of 18, have a lot of chance to last in time. Finally, to make young people addict to alcohol is beneficial as 8% of the people having an excessive drinking behavior consume 50% of the alcohol. (Basset & Rigaud, 2016). That is why alcohol lobbies use different technics to reach the youth while trying to maintain a protective image towards them.

First, they have a specific marketing strategy for them. The bottles' labels evolved; it is not always the drawing of the castle with the name of the domain written in black on a white label. The design changed to meet new requirements and to be more in line with the youth's expectation. Moreover, they started to offer different kind of wines. It is not anymore only the red, white, and rosé wines. Now, they offer aromatized wines. The success was immediate especially among the youth and more specifically among the female youth (Basset & Rigaud, 2016). What greatly helped the success of such a product is also the pricing policy that was applied on them. The cost of such a bottle is around two euros which facilitates the purchase by a population that most often does not have revenues.

Another strategy of the lobbies to make discover alcohol to young people as soon as possible is done through the concept of “taste education” (Basset & Rigaud, 2016). While they pretend to do this to prevent excessive habits and behaviors once adult, the most plausible reason behind it is to recreate a social norm around alcohol consumption. The lobby Vin & Société offers educational kits to “to allow the youngest to discover the universe of the vine, the tastes, and the soils. This learning, from primary school onwards, will encourage responsible behavior among these informed adults of tomorrow”. The kits start from the age of 4 and evolve to reach an audience up to 14 years old.

To conclude on the alcohol lobby, it is also important to mention that it knows how to surround itself. First, by financing institutes such as the IREB which general objective is to counter independent scientific research and create arguments against them. More specifically, the goal is to produce research but only on unproblematic and minor subjects while insisting on the personal vulnerability of people towards alcohol (Basset & Rigaud, 2016). The alcohol lobbies recently created the FRA. The idea is to create an apparent scientific legitimacy but these institutions being financed by the lobbies themselves, it seems to create an automatic distrust of the results that can be published. In the same way the organism Avec Modération!, also financed by the alcohol industry, aims to replace the prevention actors using their own methods. Their intention is therefore logically questionable. However, the best ally of the lobby remains the politicians themselves through the ANEV. On their website their goal is developed as following: “to constitute a network of elected wine officials beyond all political and geographical divisions” and “to represent the general interests of the vine and the wine..., with the public authorities”. (ANEV, 2023). These two elements show the tie connection between the alcohol lobbies and the political world. In addition to this, it turns out that the head office of ANEV and the one of Vin & Société, one of the most powerful French lobbies, are located at the same address (Basset & Rigaud, 2016). The collusion seems hard to refute.

## 4. Practical Part

### 4.1 Concept

Given the framework of the thesis – to realize a study on the evolution of alcohol consumption in France - the chosen method was to create and disseminate a questionnaire. Google forms have been used to create the questionnaire and observe the results. The questionnaire was exclusively disseminated among French people whether they are in France or abroad. But it was essential to consider only French respondents in order for the results to have a chance to be conclusive. The idea of the questionnaire was to evaluate if the actual consumption of French people reflected the current alcohol consumption behaviors perceived and described by the experts and authors familiar with this subject. At the most, the respondent had to answer 28 questions and at the least to answer 4 questions. The questionnaire followed different paths of questions according to the answers given at some questions. The stake with such a method, is to have specific questions to obtain specific answers and results without appearing too intrusive at the risk that the respondent may be on guard and not really reveal his true habits; which explains the length of the questionnaire. The questionnaire was sent exclusively via social media platforms such as Messenger and WhatsApp and within two months, 109 responses have been obtained. Even though the population sample is not important enough to be representative, the questionnaire's answers can still be used - with an awareness of the limits – as gender parity is almost perfectly respected and we can see that the sample contained respondents from 18 to 82 years old.

Besides the sending and completion of the questionnaire, hypotheses were made to confirm or deny the current belief in alcohol consumption behavior in France and to eventually highlight new tendencies. To reach this purpose, 27 hypotheses were made and tested through a statistical analysis. For the practical part of the hypotheses' analysis, the SPSS software has been used and based on the type of data involved in the hypotheses, two statistical tests have been used: Chi-square and T-test. Besides, these two methods of testing, some analysis directly based on the results appearing in Google Forms have been done.

## 4.2 Hypotheses

In general, several factors are taken into account in order to assert that certain groups exhibit specific behaviors. Gender, age, social class and possibly region of residence are often considered. However, the questionnaire required only two of these factors: age and gender. Thus, the set of hypotheses conducted is always related to one of these two factors. The choice was made not to ask for and include social class and place of residence in the study because it would have been too complicated to define, and it would have been impossible to have enough respondents in each category.

The first hypothesis is about gender and alcohol consumption. The purpose is to know whether drinking alcohol or not is linked to gender. If it has been mentioned that alcohol consumption was perceived differently by men and women and that for a long time, it was shameful for women to recognize that they drink even sometimes to excess, it is also mentioned that morals have evolved. However, it has been established that men are more attracted to alcohol than women (Lambrette, 2014). So, we can expect that gender and alcohol consumption are related meaning that gender influences the intake of alcohol.

The second hypothesis is relatively the same as the first one except that age is considered instead of gender. As for gender, not a specific result was expected as if it has been said that drinking habits evolve with age, it does not allow us to know if it leads to a cessation of alcohol consumption. Thus, we can difficultly estimate that age influences alcohol consumption.

The third and fourth hypotheses concern respectively gender and the behavior of drinking alone and age and the behavior of drinking alone. If alcohol consumption is occurring in different circumstances according to gender: drinking alone at home or in a bar and with different types of alcohol. However, there was no indication that men tended to drink alone more than women or vice versa, so there was no indication that gender influences the behavior of drinking alone. About age, as mentioned previously, with parenthood, the pattern to drink a glass at the end of the day when the children are in bed appears in various

homes, whereas alcohol appears more to be a social tool for young people. Thus, it is expected that age influences the behavior of drinking alone.

The fifth and sixth hypotheses are respectively about gender then age and binge drinking behaviors. First, the idea is to know first if gender and binge drinking behavior are related and second if age and drinking behavior are related. About gender, no element indicates that men or women tend to have a different behavior facing binge drinking behavior though nothing indicates the opposite. However, it is expected that age and binge drinking behavior are related as when this phenomenon arose, it has been described as practiced by the youth.

The seventh and eighth hypotheses determine if gender and weekly alcohol consumption are related and if age and weekly alcohol consumption are related. It has been said that the behaviors of men and women and young and mature are different. About gender, it is expected to see a difference between men and women as it is mentioned previously that alcohol consumption of men is more frequent than the one of women (Lambrette, 2014). About age, nothing indicates that it could impact weekly alcohol consumption behaviors.

The ninth and tenth hypotheses are about gender and age with the pressure to drink alcohol. We want to determine if these factors are related. For gender, it was never mentioned that men were more likely to endure more pressure to drink alcohol than women and vice versa. However, it is more expected for younger people to suffer pressure to drink than for older people as alcohol is a way of socialization and social interactions and social status and validation is extremely present during adolescence. So, it is expected that age has an influence on the pressure to drink.

The eleventh and twelfth hypotheses concern once more gender and age but this time with the personal perception of the respondents on their possible dangerous alcohol consumption. A priori, no specific relation between these factors can be expected as the answer is extremely personal and subjective. Thus, it is hard to project eventual answers and tendencies in the responses.

The thirteenth and fourteenth hypotheses are the following: are gender and perception of alcohol being a drug related? Are age and perception of alcohol being a drug related? For gender, a priori, nothing allows us to affirm that gender influences the perception of alcohol being a drug. For age however, it is expected that the two data are related as awareness about the dangers of alcohol rose in the 1990's. So, the younger generations should be more aware of the risks that the older ones as they have been raised in a slightly different alcohol culture.

To go further, the fifteenth hypothesis is about age and prevention about the dangers of alcohol use and its consequences. Is it related? It is expected that the young category should be more aware and should have received more prevention's interventions than the mature category.

Gender and the time of the day of alcohol consumption are related, and age and the time of the day of alcohol consumption are related are the sixteenth and seventeenth hypotheses. Nothing allows us to think that gender influences the moment of alcohol consumption. However, the ways in which alcohol is consumed and by extension the time of day when alcohol is consumed differ between the younger and older generations, so we can expect that age and time of alcohol consumption are related.

The eighteenth and nineteenth hypotheses are the following: gender and consuming 5 or more drinks in the same occasion are related and age and consuming 5 or more drinks in the same occasion are related. As men have a bigger tendency to have an addictive intensity towards alcohol (Lambrette, 2014), it is expected that gender and consuming 5 or more drinks in the same occasion are related. Likewise, older people are less likely to drink alcohol in big quantities whereas younger people are more likely to experiment binge drinking, thus we can guess that age and consuming 5 or more drinks in the same occasion are also related.

The idea of the twentieth and twenty first hypotheses is to know if there is a difference in the age of the first alcohol consumption according to gender and then according to age. It has been said previously that men are initiated to alcohol earlier than women (Lambrette, 2014) thus a difference in the age of the first alcohol consumption according to gender should appear in the testing. However, for age, if during those last decades, consumption's

behaviors towards alcohol have evolved, nothing was especially mentioned on the age of the first consumption.

The twenty second, the twenty third and the twenty fourth are hypotheses serve to determine respectively if according to gender there is a difference in the frequency of home drinking, in the frequency of alcohol consumption in bars and restaurants, in the frequency of alcohol consumption in a private environment (different from the respondent's place). It has been said that society was more indulgent when men drink alcohol rather than when women do it. Thus, women tend to drink more in private whereas men drink more in public areas (Lambrette, 2014). So, we can expect a difference according to gender in the frequency of home drinking and in the frequency of alcohol consumption in bars and restaurants. For the last hypothesis, a priori, nothing indicates that according to gender there is a difference in the frequency of alcohol consumption in a private environment.

The last three hypotheses – the twenty fifth, the twenty sixth and the twenty seventh – are similar as the three previous ones, except this time it is according to age and not gender. Due to specific constraints – children to take care of, difficulties in moving – it would be logical that older people tend to drink more at home whereas younger people would more probably drink in bars and restaurants as for most, they don't have their own place, so a public space is an ideal location to meet friends. Thus, we think that there are differences according to age in the frequency of home drinking and in the frequency of alcohol consumption in bars and restaurants. As well as for gender, no indication lets us think that there is a difference in the frequency of alcohol consumption in a private environment according to age.

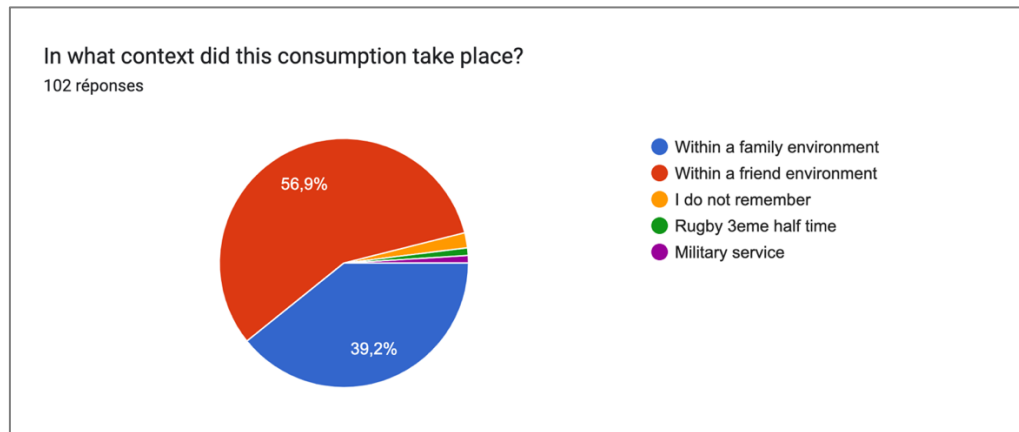
### 4.3 First results and analysis

Some of the results were not submitted to statistical analysis, however some analysis can be done directly from the results obtained in Google Forms.

The figure 36 illustrates the question: in what context did this consumption take place? This question is referring to a previous question of the questionnaire, which is: at what age did you drink alcohol for the first time? So, this figure shows that for almost 57%

of the respondents the first time they drank alcohol was within a friendly environment. And for more than 39% of the respondents it was in a family environment.

Figure 36: pie chart of the context accompanying the first alcohol consumption

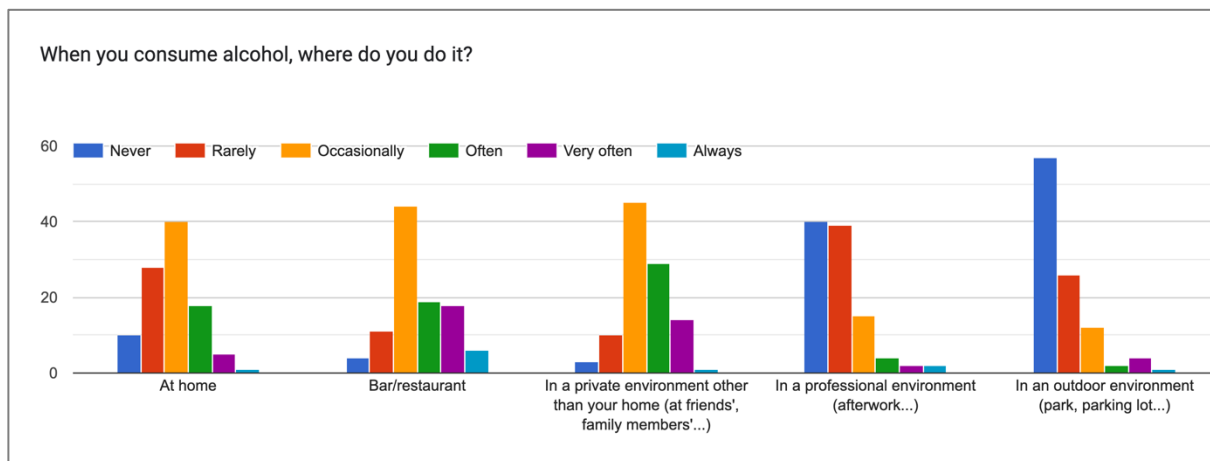


Source: results from the questionnaire on Google Forms

The figure 37 illustrates all the respondents' answers about their frequency of alcohol consumption in specific locations: at home, in bars and restaurants, in a private environment other than their own home, in a professional environment and finally in an outdoor environment. The first three locations have been submitted to statistical analysis. The other two locations were not as the bar chart observable below shows that most of the respondents answered 'Never' or 'Rarely' to consuming alcohol in a professional environment and in an outdoor one. For these reasons, it has been decided not to statistically test the last two locations. The figure illustrates that the favorite places of alcohol consumption are: at home, in bars and restaurants and in a private environment other than the respondent's home.



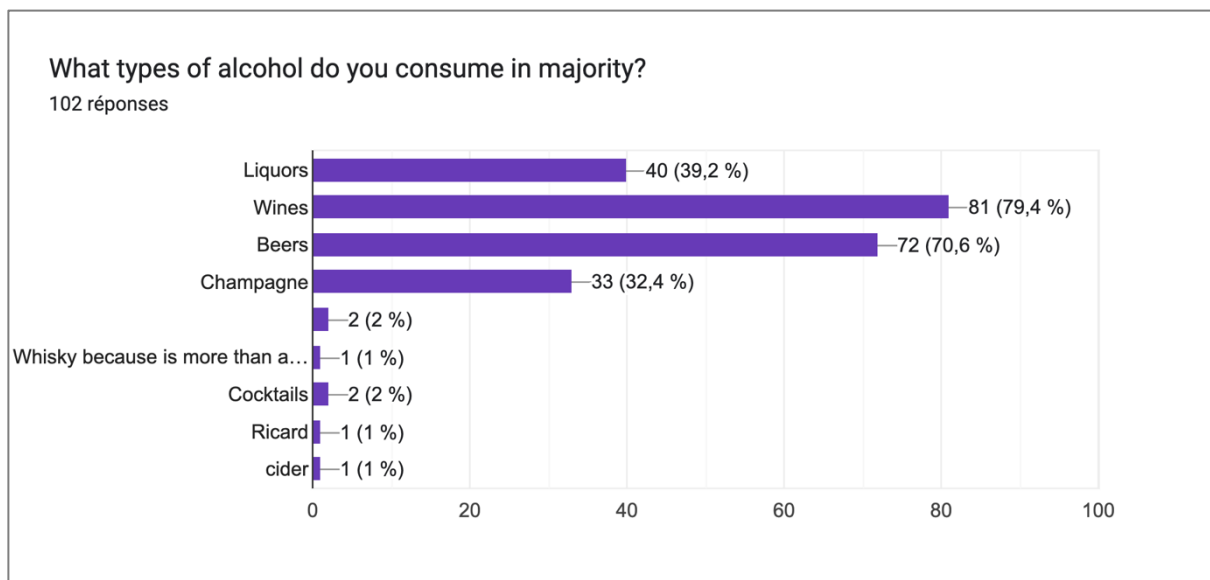
Figure 37: bar chart of the frequency of alcohol consumption according to different locations



Source: results from the questionnaire on Google Forms

The following figure – Figure 38 – corresponds to the question: what types of alcohol do you consume in majority? To this question, the respondents could give more than one answer, which explains that the number of responses obtained is superior to the number of total respondents. The results obtained correspond to the expectation: wine is the most consumed alcohol followed by beer and liquors. The figure also confirms the catching up of beer on wine. Indeed, wine has been chosen 81 times and beer 72 times. More unexpected, is the importance of Champagne. It has been chosen 33 times when liquors have been chosen 40 times.

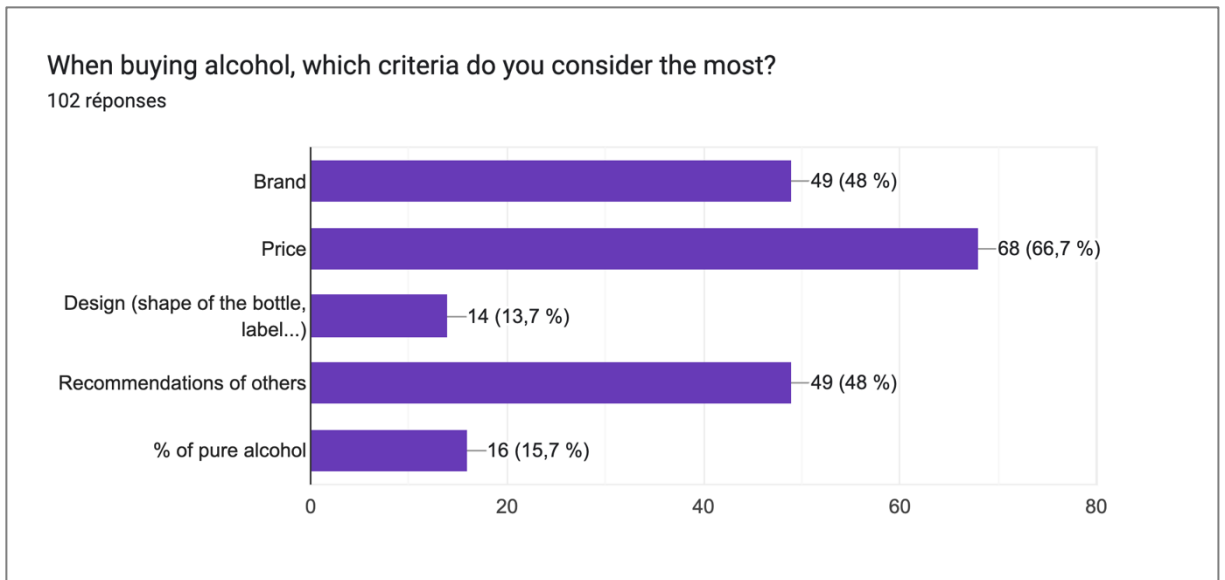
Figure 38: horizontal bar chart of the most consumed types of alcohol



Source: results from the questionnaire on Google Forms

Similarly, for the figure 39 and the correspondent question – When buying alcohol, which criteria do you consider the most? – it was possible for the respondents to choose multiple answers. Once more, it explains the fact that there are more answers than the total number of respondents. The figure demonstrates that the first criteria when buying alcohol is price. It confirms that when the alcohol lobbies deny the link and the influence of price on alcohol consumption, they are being dishonest. Then, with the same number of answers, brand and recommendations from others are taken into account.

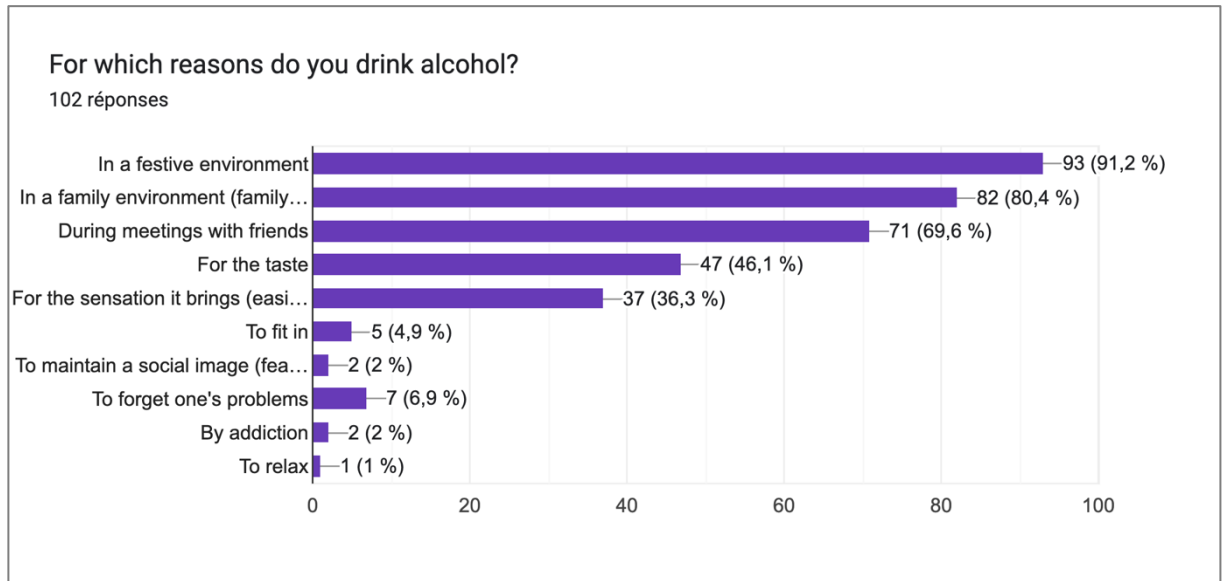
Figure 39: horizontal bar chart of the most valued criteria when buying alcohol



Source: results from the questionnaire on Google Forms

As the two previous the figure 40 illustrating the question ‘For which reasons do you drink alcohol?’ allowed the respondents to give multiple answers. The figure shows that the respondents mostly consume alcohol in a festive environment probably in the company of friends and family members. Previously, an assumption was made that with Covid people could possibly spend more time with their family and friends and by extension drink in their company. The result proves at least one point of this assumption: when people consume alcohol, they do it with their friends and family. However, there is still uncertainty whether people consume more with their friends or family post-covid than pre-covid and the exact influence of Covid on the change in consumption quantity is still not established. Moreover, a part of the respondents estimates that the taste and the sensations alcohol bring are reasons explaining their consumption.

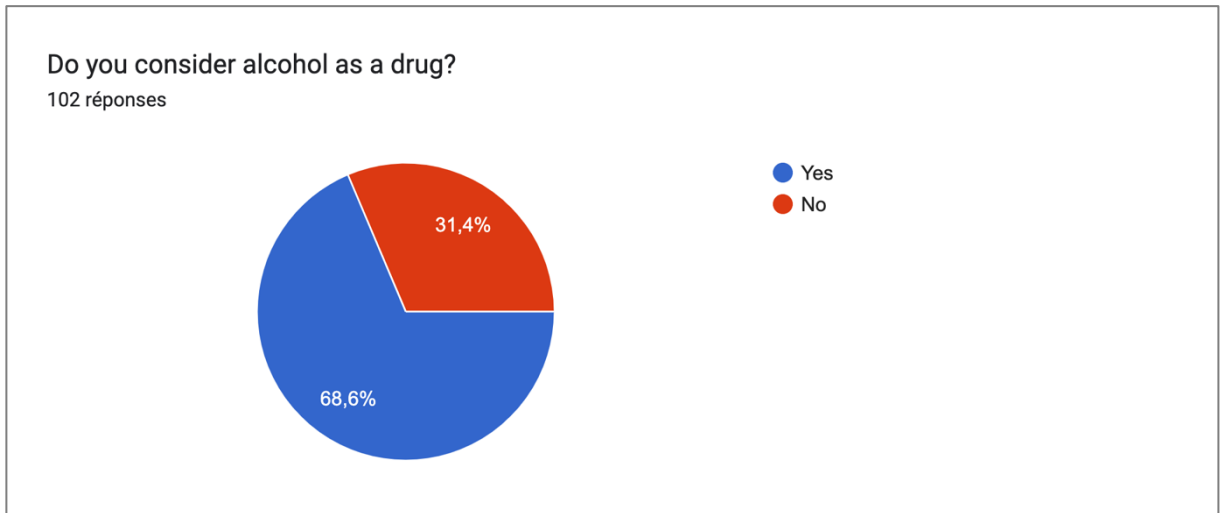
Figure 40: horizontal bar chart of the reasons leading to alcohol consumption



Source: results from the questionnaire on Google Forms

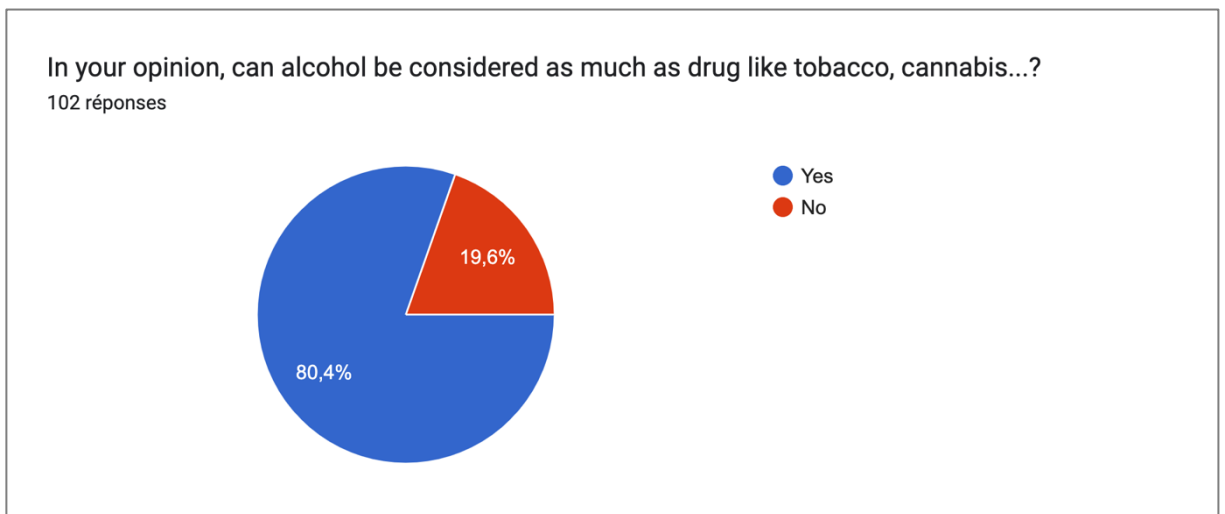
It is interesting to compare the figures 41 and 42. The figure 41 corresponds to the question ‘Do you consider alcohol as a drug?’ and the figure 42 corresponds to the question ‘In your opinion, can alcohol be considered as much as a drug like tobacco, cannabis...?’. The questions are extremely similar, except that the second one is more specific and brings some examples and tangible products that can be assimilated as drugs. It turns out that the answers are different and surprising. To the question ‘Do you consider alcohol as a drug?’, 31,4% of the 102 respondents answer No whereas to the question ‘In your opinion, can alcohol be considered as much as a drug like tobacco, cannabis...?’, the percentage of No as an answer drops to 19,6%. It would mean that some people think that alcohol is a substance that can be similar to tobacco and cannabis but that none of these three products can be considered as drugs. This would explain the difference of percentage between the two questions. However, the results are surprising as it is expected that people consider tobacco and cannabis to be drugs.

Figure 41: pie chart on the perception of alcohol considered as a drug



Source: results from the questionnaire on Google Forms

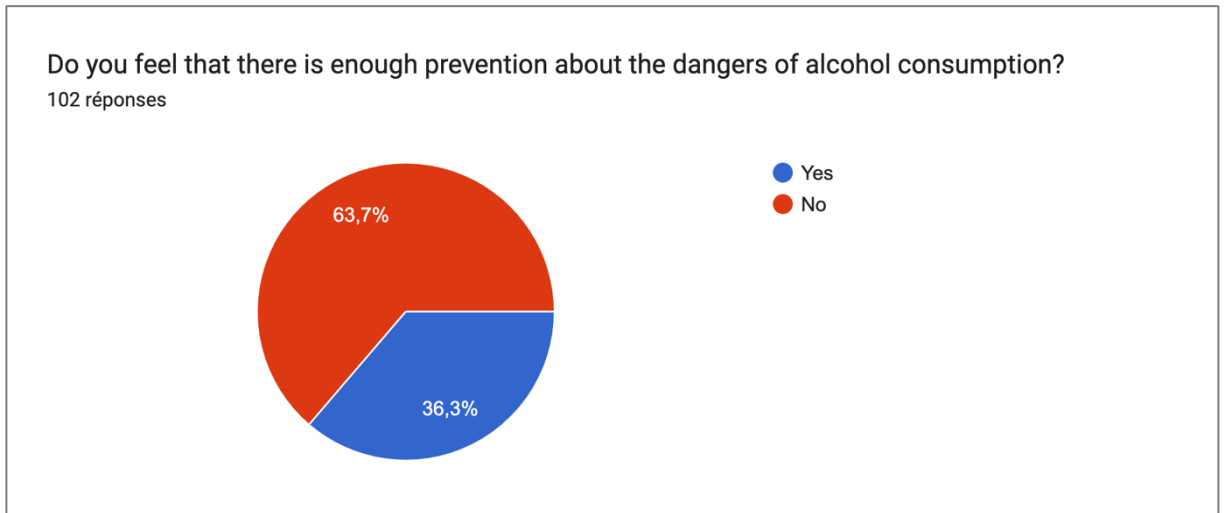
Figure 42: pie chart on the perception of alcohol being a drug similar to tobacco, cannabis...



Source: results from the questionnaire on Google Forms

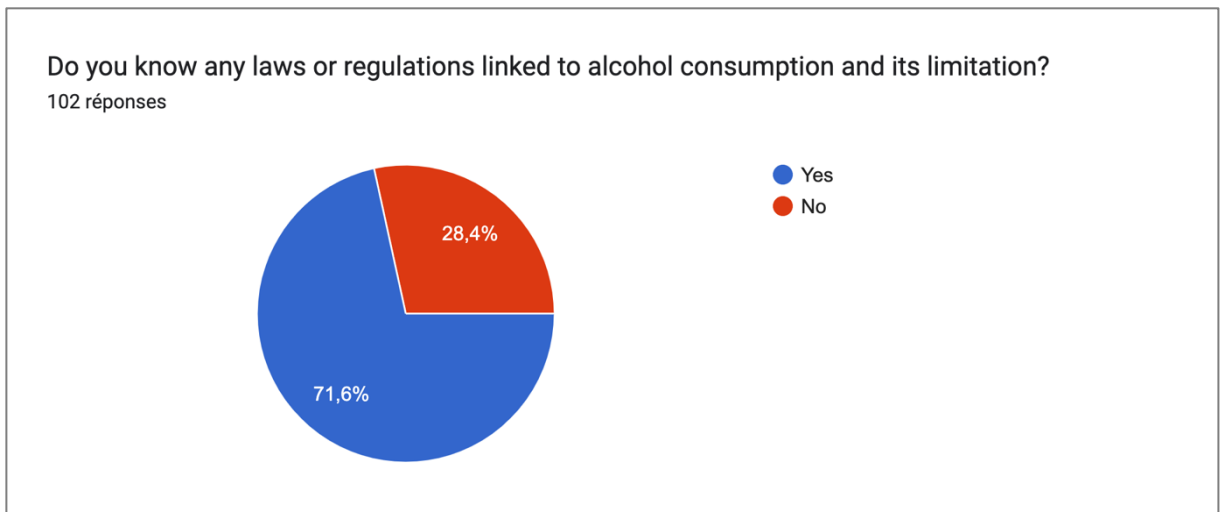
The last focuses are about prevention about alcohol and its risks and laws and regulations linked to alcohol. The questionnaire reveals through the figures 43 and 44 that on the 102 respondents, more than 63% consider that there is not enough prevention about the dangers of alcohol consumption, and more than a quarter of the respondents do not know any laws or regulations linked to alcohol consumption are its limitation.

Figure 43: pie chart on the feeling of having received enough prevention on alcohol



Source: results from the questionnaire on Google Forms

Figure 44: pie chart on the acknowledgement of laws linked to alcohol



Source: results from the questionnaire on Google Forms

Finally, the last question was an open question asking the name or the goal of the law or regulation linked to alcohol consumption and its limitation that the respondent know. Four different answers come back: the Évin law, blood alcohol limit while driving, age limitation when buying alcohol, the prohibition of being intoxicated in public spaces.

#### 4.4 Testing

Before processing to the hypotheses testing and the showing of the results, some answers have been recoded – age and Likert scale ones – into various scales but 1 always being the lowest level of responses and 3, 5, 6 or 8, the highest level of responses.

Besides, age was asked as an open-ended question. To be able to process this data correctly, it was recoded as follows: from the age of 18 to 30, the respondents fell into the young category and from the age of 31 to 82 the respondents fall into the mature category. This division was chosen for two reasons. First, it allowed for approximately the same number of responses in each category. Second, as mentioned earlier, drinking behaviors change with parenthood. In 2013, it was estimated that a woman in France had her first child at age 30 and a man at age 33 (INED, 2016). Therefore, it was decided that the first age category would stop at 30 and the second would start at 31.

Moreover, for the first two hypotheses, the entire data have been used, meaning the 109 answers. However, for the other 25 hypotheses, it has been decided to remove seven answers – the ones of the non-drinking respondents. Indeed, their presence biased the results.

We can now proceed to the testing and the results obtained:

- Hypothesis 1: Gender and alcohol consumption

H0: Gender and alcohol consumption are not related.

H1: Gender and alcohol consumption are related.

Table 1: output from SPSS for the 1<sup>st</sup> hypothesis

<b>Do you drink alcohol? * Are you ...? Crosstabulation</b>					
		Are you ...?			
		A man	A woman	Total	
Do you drink alcohol?	No	Count	5	2	7
		Expected Count	3,6	3,4	7,0
	Yes	Count	51	51	102
		Expected Count	52,4	49,6	102,0
Total		Count	56	53	109
		Expected Count	56,0	53,0	109,0

<b>Chi-Square Tests</b>					
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1,204 <sup>a</sup>	1	,273		
Continuity Correction <sup>b</sup>	,499	1	,480		
Likelihood Ratio	1,246	1	,264		
Fisher's Exact Test				,439	,242
N of Valid Cases	109				

a. 2 cells (50,0%) have expected count less than 5. The minimum expected count is 3,40.

b. Computed only for a 2x2 table

Source: own processing using SPSS

P-value = 0.273 > 0.05 → H<sub>0</sub> cannot be rejected then we can assume that gender and alcohol consumption are not related.

- Hypothesis 2: Age and alcohol consumption

H<sub>0</sub>: Age and alcohol consumption are not related.

H<sub>1</sub>: Age and alcohol consumption are related.



Table 2: output from SPSS for the 2<sup>nd</sup> hypothesis

<b>Do you drink alcohol? * How old are you? Crosstabulation</b>					
		How old are you?			
		Mature	Young	Total	
Do you drink alcohol?	No	Count	7	0	7
		Expected Count	3,4	3,6	7,0
	Yes	Count	46	56	102
		Expected Count	49,6	52,4	102,0
Total		Count	53	56	109
		Expected Count	53,0	56,0	109,0

<b>Chi-Square Tests</b>					
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	7,904 <sup>a</sup>	1	,005		
Continuity Correction <sup>b</sup>	5,859	1	,015		
Likelihood Ratio	10,603	1	,001		
Fisher's Exact Test				,005	,005
N of Valid Cases	109				

a. 2 cells (50,0%) have expected count less than 5. The minimum expected count is 3,40.

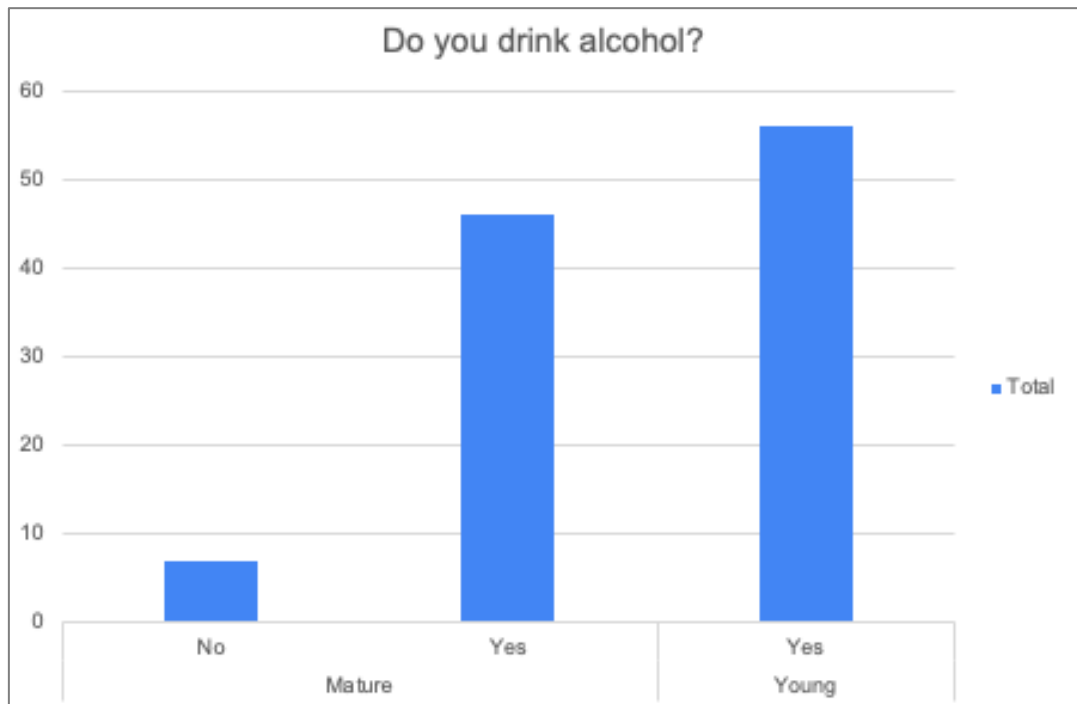
b. Computed only for a 2x2 table

Source: own processing using SPSS

P-value = 0.05 → H<sub>0</sub> is rejected so H<sub>1</sub> is validated meaning that age and alcohol consumption are related. So age influences alcohol consumption.

On the following figure, we can see that every respondents of the young category drink alcohol whereas few respondents of the mature category do not drink alcohol.

Figure 3: bar chart for the 2<sup>nd</sup> hypothesis



Source: own processing

For the following hypothesis, the non-drinking respondents have been suppressed of the database used in SPSS as their presence for the following hypothesis was irrelevant and altered the results.

- Hypothesis 3: Gender and alone drinking behavior

H0: gender and drinking alone are not related.

H1: gender and drinking alone are related.

Table 4: output from SPSS for the 3<sup>rd</sup> hypothesis

<b>Have you ever consumed alcohol alone? * Are you ...?</b>					
<b>Crosstabulation</b>					
		Are you ...?			
			A man	A woman	Total
Have you ever consumed alcohol alone?	No	Count	23	33	56
		Expected Count	28,0	28,0	56,0
	Yes	Count	28	18	46
		Expected Count	23,0	23,0	46,0
Total	Count	51	51	102	
	Expected Count	51,0	51,0	102,0	

<b>Chi-Square Tests</b>					
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	3,960 <sup>a</sup>	1	,047		
Continuity Correction <sup>b</sup>	3,207	1	,073		
Likelihood Ratio	3,987	1	,046		
Fisher's Exact Test				,073	,036
N of Valid Cases	102				

a. 0 cells (0,0%) have expected count less than 5. The minimum expected count is 23,00.

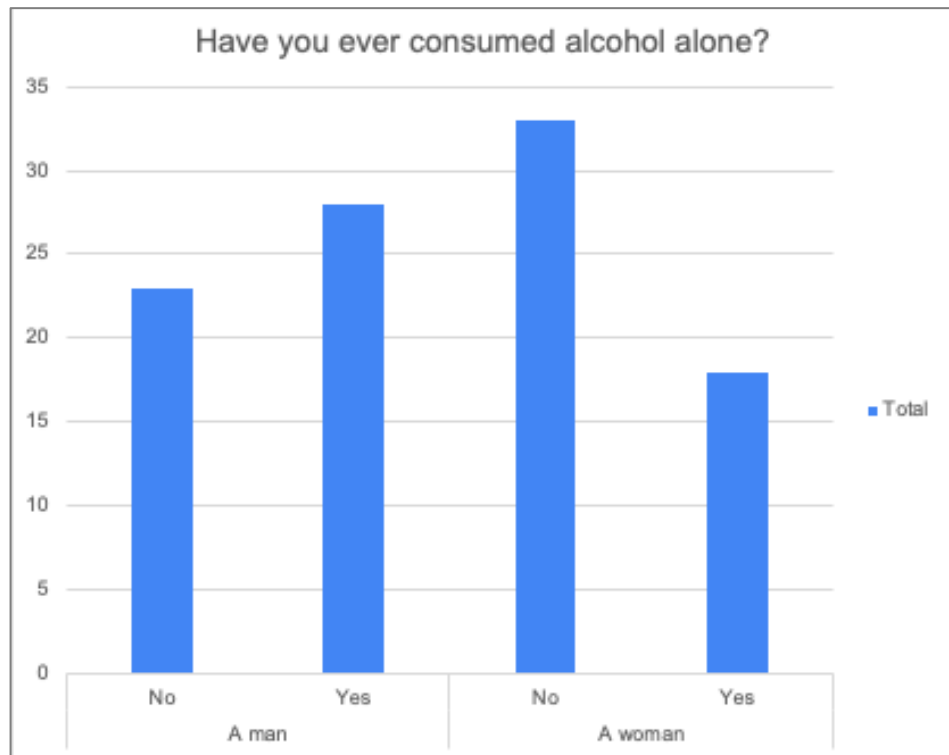
b. Computed only for a 2x2 table

Source: own processing using SPSS

P-value = 0.047 < 0.05 → H0 is rejected so H1 is validated meaning that gender and alone drinking are related.

On the following figure, we can see that men drink more alone than women.

Figure 5: bar chart for the 3<sup>rd</sup> hypothesis



Source: own processing

- Hypothesis 4: Age and alone drinking behavior

H0: age and drinking alone are not related.

H1: age and drinking alone are related.

Table 6: output from SPSS for the 4<sup>th</sup> hypothesis

<b>Have you ever consumed alcohol alone? * How old are you?</b>					
<b>Crosstabulation</b>					
		How old are you?			
			Mature	Young	Total
Have you ever consumed alcohol alone?	No	Count	23	33	56
		Expected Count	25,3	30,7	56,0
	Yes	Count	23	23	46
		Expected Count	20,7	25,3	46,0
Total	Count	46	56	102	
	Expected Count	46,0	56,0	102,0	

<b>Chi-Square Tests</b>					
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	,813 <sup>a</sup>	1	,367		
Continuity Correction <sup>b</sup>	,493	1	,483		
Likelihood Ratio	,813	1	,367		
Fisher's Exact Test				,426	,241
N of Valid Cases	102				

a. 0 cells (0,0%) have expected count less than 5. The minimum expected count is 20,75.

b. Computed only for a 2x2 table

Source: own processing using SPSS

P-value = 0.367 > 0.05 → H0 cannot be rejected thus age and drinking alone are not related.

- Hypothesis 5: Gender and binge drinking

H0: gender and binge drinking are not related.

H1: gender and binge drinking are related.

Table 7: output from SPSS for the 5<sup>th</sup> hypothesis

<b>Have you ever had a drinking behavior that can be associated with binge drinking ?</b>					
<b>Binge drinking = drinking with an intentional and organized search for drunkenness that often takes place in a group * Are you ...? Crosstabulatio</b>					
				Are you ...?	
				A man	A woman
Have you ever had a drinking behavior that can be associated with binge drinking ? Binge drinking = drinking with an intentional and organized search for drunkenness that often takes place in a grou	No	Count	23	26	49
		Expected Count	24,5	24,5	49,0
	Yes	Count	28	25	53
		Expected Count	26,5	26,5	53,0
Total		Count	51	51	102
		Expected Count	51,0	51,0	102,0

<b>Chi-Square Tests</b>					
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	,353 <sup>a</sup>	1	,552		
Continuity Correction <sup>b</sup>	,157	1	,692		
Likelihood Ratio	,354	1	,552		
Fisher's Exact Test				,692	,346
N of Valid Cases	102				

a. 0 cells (0,0%) have expected count less than 5. The minimum expected count is 24,50.

b. Computed only for a 2x2 table

Source: own processing using SPSS

P-value = 0.552 > 0.05 → H0 cannot be rejected thus we can assume that gender and binge drinking behavior are not related.

- Hypothesis 6: Age and binge drinking

H0: age and binge drinking are not related.

H1: age and binge drinking are related.

Table 8: output from SPSS for the 6<sup>th</sup> hypothesis

<b>Have you ever had a drinking behavior that can be associated with binge drinking ?</b> <b>Binge drinking = drinking with an intentional and organized search for drunkenness that often takes place in a group * How old are you? Crosstabulation</b>						
				How old are you?		
				Mature	Young	
Have you ever had a drinking behavior that can be associated with binge drinking ? Binge drinking = drinking with an intentional and organized search for drunkenness that often takes place in a group	No	Count		36	13	49
		Expected Count		22,1	26,9	49,0
	Yes	Count		10	43	53
		Expected Count		23,9	29,1	53,0
Total	Count		46	56	102	
	Expected Count		46,0	56,0	102,0	

Chi-Square Tests					
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	30,657 <sup>a</sup>	1	<,001		
Continuity Correction <sup>b</sup>	28,492	1	<,001		
Likelihood Ratio	32,388	1	<,001		
Fisher's Exact Test				<,001	<,001
N of Valid Cases	102				

a. 0 cells (0,0%) have expected count less than 5. The minimum expected count is 22,10.

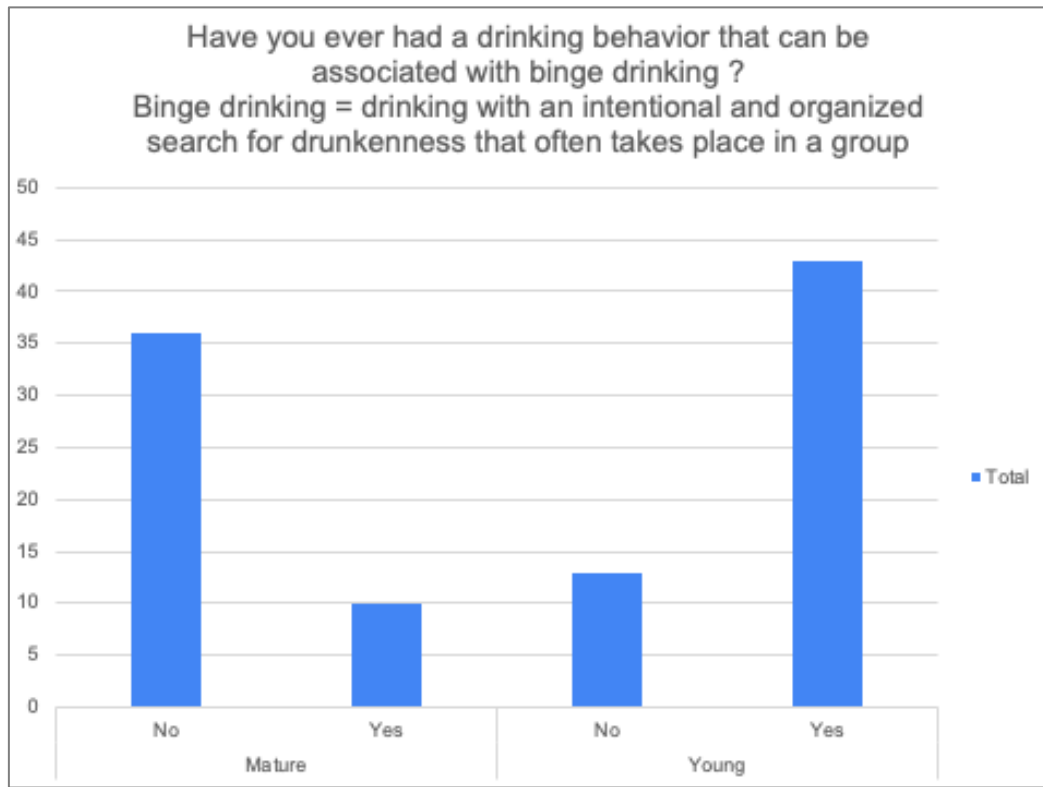
b. Computed only for a 2x2 table

Source: own processing using SPSS

P-value < 0.001 < 0.05 → H0 is rejected so H1 is validated meaning that age and binge drinking behavior are related. Age influences the behavior of binge drinking.

On the following figure, we can see that young people practice binge drinking much more than older people.

Figure 9: bar chart for the 6<sup>th</sup> hypothesis



Source: own processing



- Hypothesis 7: Gender and weekly alcohol consumption

H0: gender and weekly alcohol consumption are not related.

H1: gender and weekly alcohol consumption are related.

Table 10: output from SPSS for the 7<sup>th</sup> hypothesis

<b>Do you drink alcohol weekly? * Are you ...? Crosstabulation</b>					
		Are you ...?			
			A man	A woman	Total
Do you drink alcohol weekly?	No	Count	23	25	48
		Expected Count	24,0	24,0	48,0
	Yes	Count	28	26	54
		Expected Count	27,0	27,0	54,0
Total	Count	51	51	102	
	Expected Count	51,0	51,0	102,0	

<b>Chi-Square Tests</b>					
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	,157 <sup>a</sup>	1	,692		
Continuity Correction <sup>b</sup>	,039	1	,843		
Likelihood Ratio	,157	1	,692		
Fisher's Exact Test				,843	,421
N of Valid Cases	102				

a. 0 cells (0,0%) have expected count less than 5. The minimum expected count is 24,00.

b. Computed only for a 2x2 table

Source: own processing using SPSS

P-value = 0.692 > 0.05 → H0 cannot be rejected thus gender and weekly alcohol consumption are not related.

- Hypothesis 8: Age and weekly alcohol consumption

H0: age and weekly alcohol consumption are not related.

H1: age and weekly alcohol consumption are related.

Table 11: output from SPSS for the 8<sup>th</sup> hypothesis

<b>Do you drink alcohol weekly? * How old are you?</b>					
<b>Crosstabulation</b>					
		How old are you?			
		Mature	Young	Total	
Do you drink alcohol weekly?	No	Count	27	21	48
		Expected Count	21,6	26,4	48,0
	Yes	Count	19	35	54
		Expected Count	24,4	29,6	54,0
Total		Count	46	56	102
		Expected Count	46,0	56,0	102,0

<b>Chi-Square Tests</b>					
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	4,554 <sup>a</sup>	1	,033		
Continuity Correction <sup>b</sup>	3,743	1	,053		
Likelihood Ratio	4,583	1	,032		
Fisher's Exact Test				,046	,026
N of Valid Cases	102				

a. 0 cells (0,0%) have expected count less than 5. The minimum expected count is 21,65.

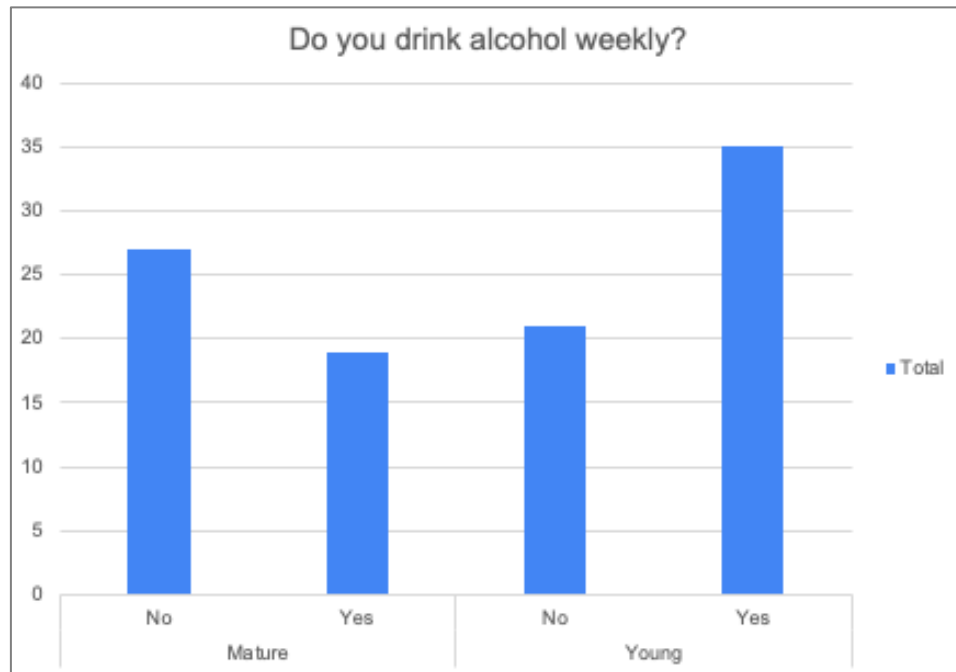
b. Computed only for a 2x2 table

Source: own processing using SPSS

P-value = 0.033 < 0.05 → H0 is rejected so H1 is validated meaning that age and weekly alcohol consumption are related.

The following figure shows that younger people are more likely to drink weekly than older people.

Figure 12: bar chart for the 8<sup>th</sup> hypothesis



Source: own processing

- Hypothesis 9: Gender and social pressure to drink

H0: gender and social pressure to drink are not related.

H1: gender and social pressure to drink are related.

Table 13: output from SPSS for the 9<sup>th</sup> hypothesis

Have you ever felt alcohol as a social pressure? * Are you ...?					
Crosstabulation					
		Are you ...?			
			A man	A woman	Total
Have you ever felt alcohol as a social pressure?	No	Count	30	26	56
		Expected Count	28,0	28,0	56,0
	Yes	Count	21	25	46
		Expected Count	23,0	23,0	46,0
Total	Count	51	51	102	
	Expected Count	51,0	51,0	102,0	

Chi-Square Tests					
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	,634 <sup>a</sup>	1	,426		
Continuity Correction <sup>b</sup>	,356	1	,551		
Likelihood Ratio	,634	1	,426		
Fisher's Exact Test				,551	,275
N of Valid Cases	102				

a. 0 cells (0,0%) have expected count less than 5. The minimum expected count is 23,00.

b. Computed only for a 2x2 table

Source: own processing using SPSS

P-value = 0.426 > 0.05 → H0 cannot be rejected thus gender and social pressure to drink are not related.

- Hypothesis 10: Age and social pressure to drink

H0: age and social pressure to drink are not related.

H1: age and social pressure to drink are related.

Table 14: output from SPSS for the 10<sup>th</sup> hypothesis

<b>Have you ever felt alcohol as a social pressure? * How old are you? Crosstabulation</b>					
		How old are you?			
			Mature	Young	Total
Have you ever felt alcohol as a social pressure?	No	Count	36	20	56
		Expected Count	25,3	30,7	56,0
	Yes	Count	10	36	46
		Expected Count	20,7	25,3	46,0
Total	Count	46	56	102	
	Expected Count	46,0	56,0	102,0	

<b>Chi-Square Tests</b>					
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	18,464 <sup>a</sup>	1	<,001		
Continuity Correction <sup>b</sup>	16,786	1	<,001		
Likelihood Ratio	19,253	1	<,001		
Fisher's Exact Test				<,001	<,001
N of Valid Cases	102				

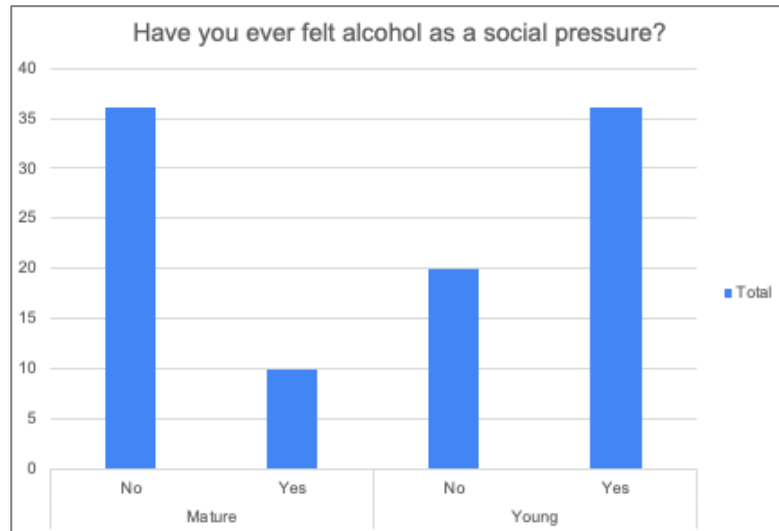
a. 0 cells (0,0%) have expected count less than 5. The minimum expected count is 20,75.  
b. Computed only for a 2x2 table

Source: own processing using SPSS

P-value < 0,001 < 0,05 → H0 is rejected so H1 is validated meaning that age and social pressure to drink are related.

On the following figure, we can see that younger people feel more pressure to drink alcohol than older people.

Figure 15: bar chart for the 10<sup>th</sup> hypothesis



Source: own processing

- Hypothesis 11: Gender and perception of one's drinking as problematic
- H0: gender and perception of one's drinking as problematic are not related.  
H1: gender and perception of one's drinking as problematic are related.

Table 16: output from SPSS for the 11<sup>th</sup> hypothesis

Have you ever thought that your relationship with alcohol could be problematic/dangerous? * Are you ...? Crosstabulation					
		Are you ...?			Total
		A man	A woman		
Have you ever thought that your relationship with alcohol could be problematic/dangerous?	No	Count	37	39	76
		Expected Count	38,0	38,0	76,0
	Yes	Count	14	12	26
		Expected Count	13,0	13,0	26,0
Total		Count	51	51	102
		Expected Count	51,0	51,0	102,0

Chi-Square Tests				
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	,206 <sup>a</sup>	1	,650	
Continuity Correction <sup>b</sup>	,052	1	,820	
Likelihood Ratio	,207	1	,649	
Fisher's Exact Test				,821
N of Valid Cases	102			,410

a. 0 cells (0,0%) have expected count less than 5. The minimum expected count is 13,00.  
b. Computed only for a 2x2 table

Source: own processing using SPSS

P-value = 0.650 > 0.05 → H0 cannot be rejected thus gender and own perceived problematic alcohol consumption are not related

- Hypothesis 12: Age and perception of one's drinking as problematic

H0: age and perception of one's drinking as problematic are not related.

H1: age and perception of one's drinking as problematic are related.

Table 17: output from SPSS for the 12<sup>th</sup> hypothesis

<b>Have you ever thought that your relationship with alcohol could be problematic/dangerous? * How old are you?</b>					
<b>Crosstabulation</b>					
		How old are you?			
			Mature	Young	Total
Have you ever thought that your relationship with alcohol could be problematic/dangerous?	No	Count	36	40	76
		Expected Count	34,3	41,7	76,0
	Yes	Count	10	16	26
		Expected Count	11,7	14,3	26,0
Total		Count	46	56	102
		Expected Count	46,0	56,0	102,0

<b>Chi-Square Tests</b>					
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	,621 <sup>a</sup>	1	,431		
Continuity Correction <sup>b</sup>	,313	1	,576		
Likelihood Ratio	,626	1	,429		
Fisher's Exact Test				,498	,289
N of Valid Cases	102				

a. 0 cells (0,0%) have expected count less than 5. The minimum expected count is 11,73.

b. Computed only for a 2x2 table

Source: own processing using SPSS

P-value = 0.431 > 0.05 → H0 cannot be rejected thus age and own perceived problematic alcohol consumption are not related.

- Hypothesis 13: Gender and perception of alcohol as a drug

H0: gender and perception of alcohol as a drug are not related.

H1: gender and perception of alcohol as a drug are related.

Table 18: output from SPSS for the 13<sup>th</sup> hypothesis

<b>Do you consider alcohol as a drug? * Are you ...?</b>					
<b>Crosstabulation</b>					
		Are you ...?			
			A man	A woman	Total
Do you consider alcohol as a drug?	No	Count	17	15	32
		Expected Count	16,0	16,0	32,0
	Yes	Count	34	36	70
		Expected Count	35,0	35,0	70,0
Total	Count	51	51	102	
	Expected Count	51,0	51,0	102,0	

<b>Chi-Square Tests</b>					
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	,182 <sup>a</sup>	1	,670		
Continuity Correction <sup>b</sup>	,046	1	,831		
Likelihood Ratio	,182	1	,669		
Fisher's Exact Test				,831	,416
N of Valid Cases	102				

a. 0 cells (0,0%) have expected count less than 5. The minimum expected count is 16,00.

b. Computed only for a 2x2 table

Source: own processing using SPSS

P-value = 0.670 > 0.05 → H0 cannot be rejected thus gender and perception of alcohol being a drug are not related



- Hypothesis 14: Age and perception of alcohol as a drug

H0: age and perception of alcohol as a drug are not related.

H1: age and perception of alcohol as a drug are related.

Table 19: output from SPSS for the 14<sup>th</sup> hypothesis

<b>Do you consider alcohol as a drug? * How old are you?</b>					
<b>Crosstabulation</b>					
		How old are you?			
		Mature	Young	Total	
Do you consider alcohol as a drug?	No	Count	17	15	32
		Expected Count	14,4	17,6	32,0
	Yes	Count	29	41	70
		Expected Count	31,6	38,4	70,0
Total	Count	46	56	102	
	Expected Count	46,0	56,0	102,0	

<b>Chi-Square Tests</b>					
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1,213 <sup>a</sup>	1	,271		
Continuity Correction <sup>b</sup>	,787	1	,375		
Likelihood Ratio	1,210	1	,271		
Fisher's Exact Test				,291	,187
N of Valid Cases	102				

a. 0 cells (0,0%) have expected count less than 5. The minimum expected count is 14,43.

b. Computed only for a 2x2 table

Source: own processing using SPSS

P-value = 0.271 > 0.05 → H0 cannot be rejected thus age and perception of alcohol being a drug are not related

- Hypothesis 15: Age and prevention about the dangers of alcohol use and its consequences

H0: age and receiving prevention about the dangers of alcohol use and its consequences are not related.

H1: age and receiving prevention about the dangers of alcohol use and its consequences are related.

Table 20: output from SPSS for the 15<sup>th</sup> hypothesis

<b>Have you ever received any school or work-related prevention about the dangers of alcohol use and its consequences? * How old are you? Crosstabulation</b>						
		How old are you?		Total		
		Mature	Young			
Have you ever received any school or work-related prevention about the dangers of alcohol use and its consequences?	No	Count	26	7	33	
		Expected Count	14,9	18,1	33,0	
	Yes	Count	20	49	69	
		Expected Count	31,1	37,9	69,0	
Total	Count	46	56	102		
	Expected Count	46,0	56,0	102,0		

<b>Chi-Square Tests</b>					
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	22,362 <sup>a</sup>	1	<,001		
Continuity Correction <sup>b</sup>	20,396	1	<,001		
Likelihood Ratio	23,235	1	<,001		
Fisher's Exact Test				<,001	<,001
N of Valid Cases	102				

a. 0 cells (0,0%) have expected count less than 5. The minimum expected count is 14,88.

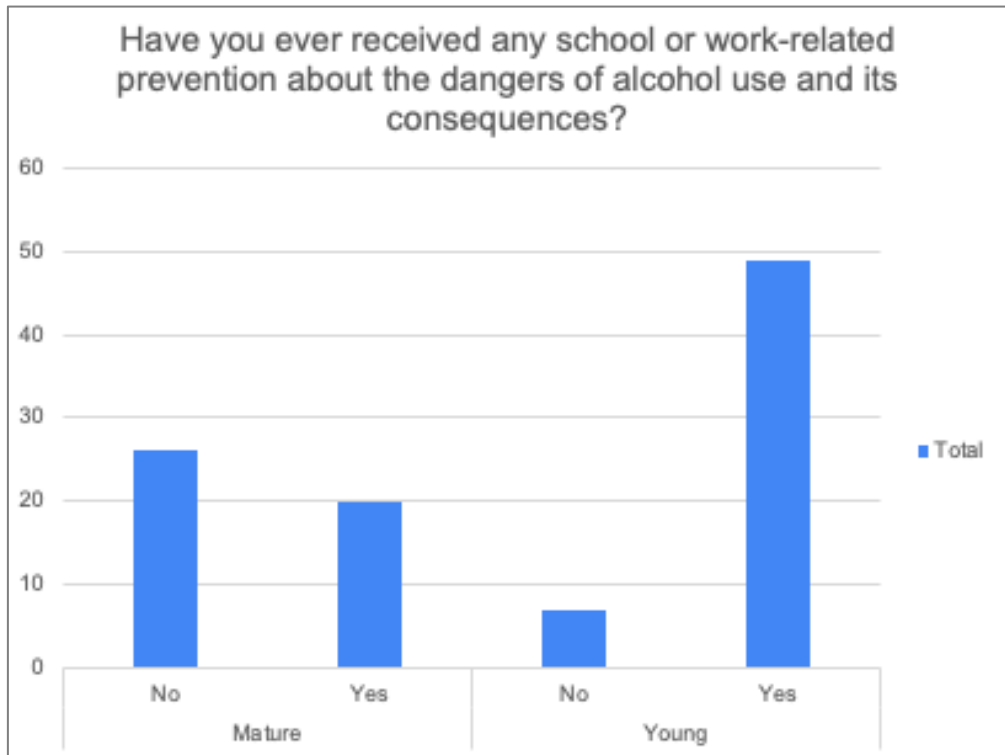
b. Computed only for a 2x2 table

Source: own processing using SPSS

P-value  $< 0.001 < 0.05 \rightarrow H_0$  is rejected so  $H_1$  is validated meaning that age and prevention received about the dangers of alcohol use are related.

On the following figure, we can observe that younger people encountered more school or work-related prevention about the dangers of alcohol use and its consequences than older people.

Figure 21: bar chart for the 15<sup>th</sup> hypothesis



Source: own processing

- Hypothesis 16: Gender and the time of the day of alcohol consumption
- H0: Gender and the time of the day of alcohol consumption are not related.  
H1: Gender and the time of the day of alcohol consumption are related.

Table 22: output from SPSS for the 16<sup>th</sup> hypothesis

When do you mainly drink alcohol? * Are you ...? Crosstabulation					
		Are you ...?		Total	
		A man	A woman		
When do you mainly drink alcohol?	During the day	Count	3	3	6
		Expected Count	3,0	3,0	6,0
	In the evening	Count	48	48	96
		Expected Count	48,0	48,0	96,0
Total	Count	51	51	102	
Expected Count	51,0	51,0	102,0		

Chi-Square Tests				
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	,000 <sup>a</sup>	1	1,000	
Continuity Correction <sup>b</sup>	,000	1	1,000	
Likelihood Ratio	,000	1	1,000	
Fisher's Exact Test				1,000
N of Valid Cases	102			,661

a. 2 cells (50,0%) have expected count less than 5. The minimum expected count is 3,00.  
b. Computed only for a 2x2 table

Source: own processing using SPSS

P-value = 1 > 0.05 → H0 is not rejected thus gender and time of alcohol consumption are not related.

- Hypothesis 17: Age and the time of the day of alcohol consumption
- H0: Age and the time of the day of alcohol consumption are not related.  
H1: Age and the time of the day of alcohol consumption are related.

Table 23: output from SPSS for the 17<sup>th</sup> hypothesis

<b>When do you mainly drink alcohol? * How old are you? Crosstabulation</b>					
				How old are you?	
				Mature	Young
When do you mainly drink alcohol?	During the day	Count	6	0	6
		Expected Count	2,7	3,3	6,0
	In the evening	Count	40	56	96
		Expected Count	43,3	52,7	96,0
Total	Count	46	56	102	
	Expected Count	46,0	56,0	102,0	

<b>Chi-Square Tests</b>					
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	7,761 <sup>a</sup>	1	,005		
Continuity Correction <sup>b</sup>	5,584	1	,018		
Likelihood Ratio	10,015	1	,002		
Fisher's Exact Test				,007	,007
N of Valid Cases	102				

a. 2 cells (50,0%) have expected count less than 5. The minimum expected count is 2,71.

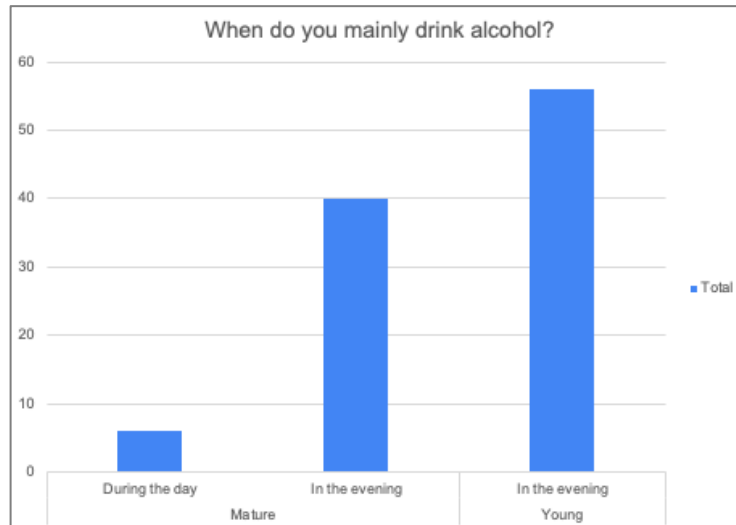
b. Computed only for a 2x2 table

Source: own processing using SPSS

P-value = 0.005 < 0.05 → H<sub>0</sub> is rejected so H<sub>1</sub> is validated meaning that age and time of alcohol consumption are related.

On the following figure, we can see that only the mature category appears to drink during daytime.

Figure 24: bar chart for the 17<sup>th</sup> hypothesis



Source: own processing

- Hypothesis 18: Gender and consuming 5 or more drinks in the same occasion
- H0: Gender and consuming 5 or more drinks in the same occasion are not related.  
H1: Gender and consuming 5 or more drinks in the same occasion are related.

Table 25: output from SPSS for the 18<sup>th</sup> hypothesis

Have you ever had more than 5 drinks in one occasion? * Are you ...? Crosstabulation					
		Are you ...?			Total
		A man	A woman		
Have you ever had more than 5 drinks in one occasion?	No	Count	2	14	16
		Expected Count	8,0	8,0	16,0
	Yes	Count	49	37	86
		Expected Count	43,0	43,0	86,0
Total	Count	51	51	102	
	Expected Count	51,0	51,0	102,0	

Chi-Square Tests					
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	10,674 <sup>a</sup>	1	,001		
Continuity Correction <sup>b</sup>	8,969	1	,003		
Likelihood Ratio	11,804	1	<,001		
Fisher's Exact Test				,002	<,001
N of Valid Cases	102				

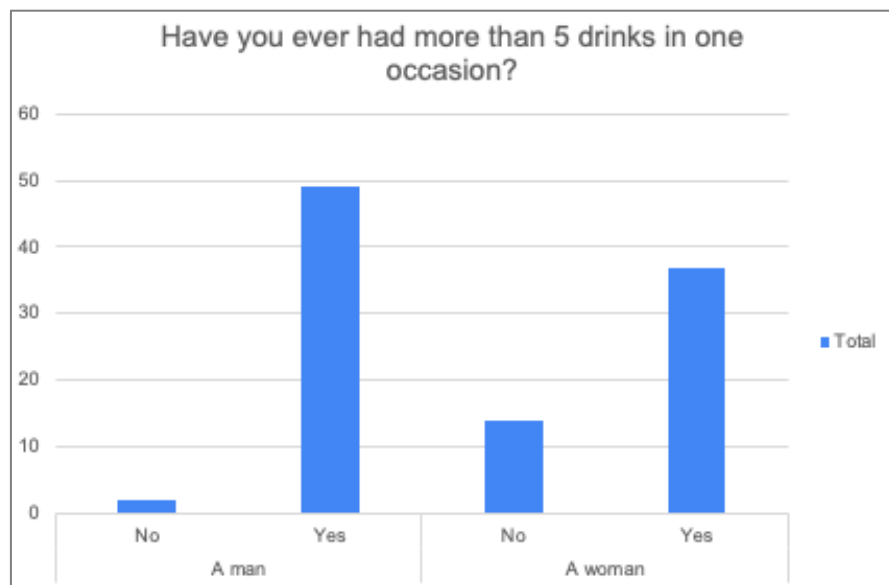
a. 0 cells (0,0%) have expected count less than 5. The minimum expected count is 8,00.  
b. Computed only for a 2x2 table

Source: own processing using SPSS

P-value = 0.001 < 0.05 → H0 is rejected so H1 is validated meaning that gender and consuming 5 or more drinks in the same occasion are related.

On the following figure, we can observe that men tend to more drink 5 or more alcoholic drinks in the same occasion than women.

Figure 26: bar chart for the 18<sup>th</sup> hypothesis



Source: own processing

- Hypothesis 19: Age and consuming 5 or more drinks in the same occasion
- H0: Age and consuming 5 or more drinks in the same occasion are not related.  
H1: Age and consuming 5 or more drinks in the same occasion are related.

Table 27: output from SPSS for the 19<sup>th</sup> hypothesis

<b>Have you ever had more than 5 drinks in one occasion? * How old are you? Crosstabulation</b>					
		How old are you?		Total	
		Mature	Young		
Have you ever had more than 5 drinks in one occasion?	No	Count	13	3	16
		Expected Count	7,2	8,8	16,0
	Yes	Count	33	53	86
		Expected Count	38,8	47,2	86,0
Total	Count	46	56	102	
	Expected Count	46,0	56,0	102,0	

<b>Chi-Square Tests</b>					
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	10,017 <sup>a</sup>	1	,002		
Continuity Correction <sup>b</sup>	8,360	1	,004		
Likelihood Ratio	10,450	1	,001		
Fisher's Exact Test				,002	,002
N of Valid Cases	102				

a. 0 cells (0,0%) have expected count less than 5. The minimum expected count is 7,22.  
b. Computed only for a 2x2 table

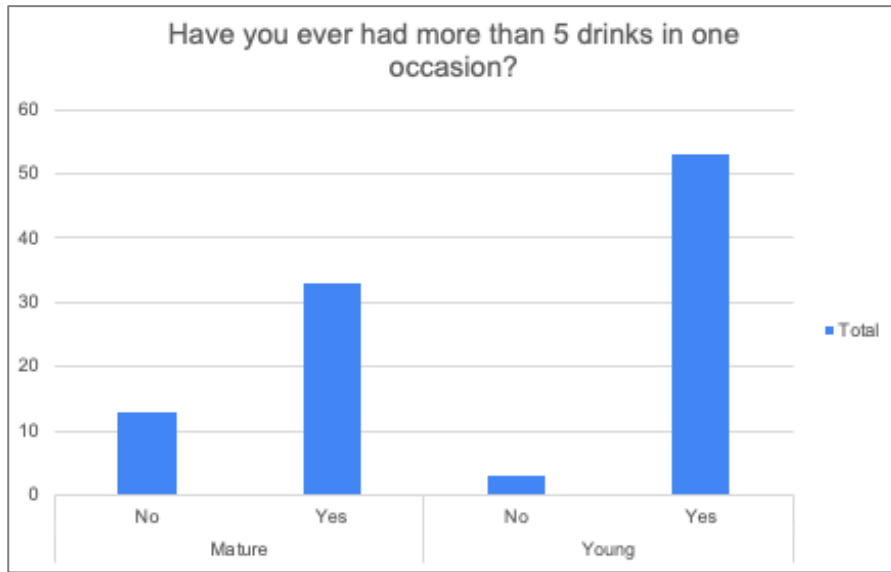
Source: own processing using SPSS

P-value = 0.002 < 0.05 → H0 is rejected so H1 is validated meaning that age and consuming 5 or more drinks in the same occasion are related.

On the following figure, we can observe that the young category tend to more drink 5 or more alcohol drinks in the same occasion than the mature category.



Figure 28: bar chart for the 19<sup>th</sup> hypothesis



Source: own processing using SPSS

- Hypothesis 20: Gender and age of the first alcohol consumption

H0: There is no difference in the age of the first alcohol consumption according to gender.

H1: There is a difference in the age of the first alcohol consumption according to gender.

Table 29: output from SPSS for the 20<sup>th</sup> hypothesis

Group Statistics					
Are you ...?		N	Mean	Std. Deviation	Std. Error Mean
At what age did you drink alcohol the first?	A man	51	3,20	1,059	,148
	A woman	51	3,47	,946	,132

Independent Samples Test											
		Levene's Test for Equality of Variances			t-test for Equality of Means						
		F	Sig.	t	df	Significance One-Sided p	Significance Two-Sided p	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
At what age did you drink alcohol the first?	Equal variances assumed	,277	,600	-1,381	100	,085	,170	-,275	,199	-,669	,120
	Equal variances not assumed			-1,381	98,750	,085	,170	-,275	,199	-,669	,120

Source: own processing using SPSS

Variances are equal ( $0.6 > 0.05$ )  $\rightarrow$  p-value =  $0.17 > 0.05$   $\rightarrow$  H0 is not rejected thus there is no difference in the age of the first alcohol consumption according to gender.

- Hypothesis 21: Age and age of the first alcohol consumption

H0: There is no difference in the age of the first alcohol consumption according to age.

H1: There is a difference in the age of the first alcohol consumption according to age.

Table 30: output from SPSS for the 21<sup>st</sup> hypothesis

Group Statistics										
How old are you?		N	Mean	Std. Deviation	Std. Error Mean					
At what age did you drink alcohol the first?	Mature	46	3,52	1,169	,172					
	Young	56	3,18	,834	,111					

Independent Samples Test											
		Levene's Test for Equality of Variances				t-test for Equality of Means					
		F	Sig.	t	df	Significance		Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						One-Sided p	Two-Sided p			Lower	Upper
At what age did you drink alcohol the first?	Equal variances assumed	7,325	,008	1,727	100	,044	,087	,343	,199	-,051	,737
	Equal variances not assumed			1,672	79,150	,049	,098	,343	,205	-,065	,752

Source: own processing using SPSS

Variances are not equal ( $0.008 < 0.05$ )  $\rightarrow$  p-value =  $0.098 > 0.05$   $\rightarrow$  H0 is not rejected thus there is no difference in the age of the first alcohol consumption according to age.

For the hypothesis 22 to 24, we have the following results:

Table 31: output from SPSS for the 22<sup>nd</sup>, 23<sup>rd</sup> and 24<sup>th</sup> hypothesis

Group Statistics										
Are you ...?		N	Mean	Std. Deviation	Std. Error Mean					
When you consume alcohol, where do you do it? [At home]	A man	51	2,92	1,111	,156					
	A woman	51	2,75	,997	,140					
When you consume alcohol, where do you do it? [Bar/restaurant]	A man	51	3,73	1,234	,173					
	A woman	51	3,33	1,125	,158					
When you consume alcohol, where do you do it? [In a private environment other than your home (at friends', family members'...)]	A man	51	3,57	,900	,126					
	A woman	51	3,29	1,045	,146					

Independent Samples Test											
		Levene's Test for Equality of Variances				t-test for Equality of Means					
		F	Sig.	t	df	Significance		Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						One-Sided p	Two-Sided p			Lower	Upper
When you consume alcohol, where do you do it? [At home]	Equal variances assumed	,166	,684	,844	100	,200	,400	,176	,209	-,238	,591
	Equal variances not assumed			,844	98,852	,200	,400	,176	,209	-,238	,591
When you consume alcohol, where do you do it? [Bar/restaurant]	Equal variances assumed	1,379	,243	1,677	100	,048	,097	,392	,234	-,072	,856
	Equal variances not assumed			1,677	99,162	,048	,097	,392	,234	-,072	,856
When you consume alcohol, where do you do it? [In a private environment other than your home (at friends', family members'...)]	Equal variances assumed	,397	,530	1,421	100	,079	,158	,275	,193	-,109	,658
	Equal variances not assumed			1,421	97,855	,079	,158	,275	,193	-,109	,658

Source: own processing using SPSS

- Hypothesis 22: Gender and frequency of home drinking

H0: There is no difference in the frequency of home drinking according to gender.

H1: There is a difference in the frequency of home drinking according to gender.

Variances are equal ( $0.684 > 0.05$ )  $\rightarrow$  p-value =  $0.4 > 0.05 \rightarrow$  H0 is not rejected thus there is no difference in the frequency of home drinking according to gender.

- Hypothesis 23: Gender and frequency of alcohol consumption in bars and restaurants

H0: There is no difference in the frequency of alcohol consumption in bars and restaurants according to gender.

H1: There is a difference in the frequency of alcohol consumption in bars and restaurants according to gender.

Variances are equal ( $0.243 > 0.05$ )  $\rightarrow$  p-value =  $0.097 > 0.05 \rightarrow$  H0 is not rejected thus there is no difference in the frequency of alcohol consumption in bars and restaurants according to gender.

- Hypothesis 24: Gender and frequency of alcohol consumption in a private environment (excluding the respondent own home)

H0: There is no difference in the frequency of alcohol consumption in a private environment according to gender.

H1: There is a difference in the frequency of alcohol consumption in a private environment according to gender.

Variances are equal ( $0.530 > 0.05$ )  $\rightarrow$  p-value =  $0.158 > 0.05 \rightarrow$  H0 is not rejected thus there is no difference in the frequency of alcohol consumption in a private environment according to age.

For the hypothesis 25 to 27, we have the following results:

Table 32: output from SPSS for the 25<sup>th</sup>, 26<sup>th</sup> and 27<sup>th</sup> hypothesis

Group Statistics					
	How old are you?	N	Mean	Std. Deviation	Std. Error Mean
When you consume alcohol, where do you do it? [At home]	Mature	46	3,17	,851	,126
	Young	56	2,55	1,127	,151
When you consume alcohol, where do you do it? [Bar/restaurant]	Mature	46	3,13	1,128	,166
	Young	56	3,86	1,151	,154
When you consume alcohol, where do you do it? [In a private environment other than your home (at friends', family members'...)]	Mature	46	3,09	,985	,145
	Young	56	3,71	,889	,119

Independent Samples Test											
		Levene's Test for Equality of Variances				t-test for Equality of Means					
		F	Sig.	t	df	Significance		Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						One-Sided p	Two-Sided p			Lower	Upper
When you consume alcohol, where do you do it? [At home]	Equal variances assumed	7,719	,007	3,080	100	,001	,003	,620	,201	,221	1,020
	Equal variances not assumed			3,165	99,356	,001	,002	,620	,196	,231	1,009
When you consume alcohol, where do you do it? [Bar/restaurant]	Equal variances assumed	2,484	,118	-3,202	100	<,001	,002	-,727	,227	-1,177	-,276
	Equal variances not assumed			-3,209	96,909	<,001	,002	-,727	,226	-1,176	-,277
When you consume alcohol, where do you do it? [In a private environment other than your home (at friends', family members'...)]	Equal variances assumed	,777	,380	-3,378	100	<,001	,001	-,627	,186	-,996	-,259
	Equal variances not assumed			-3,344	91,739	<,001	,001	-,627	,188	-1,000	-,255

Source: own processing using SPSS

- Hypothesis 25: Age and frequency of home drinking

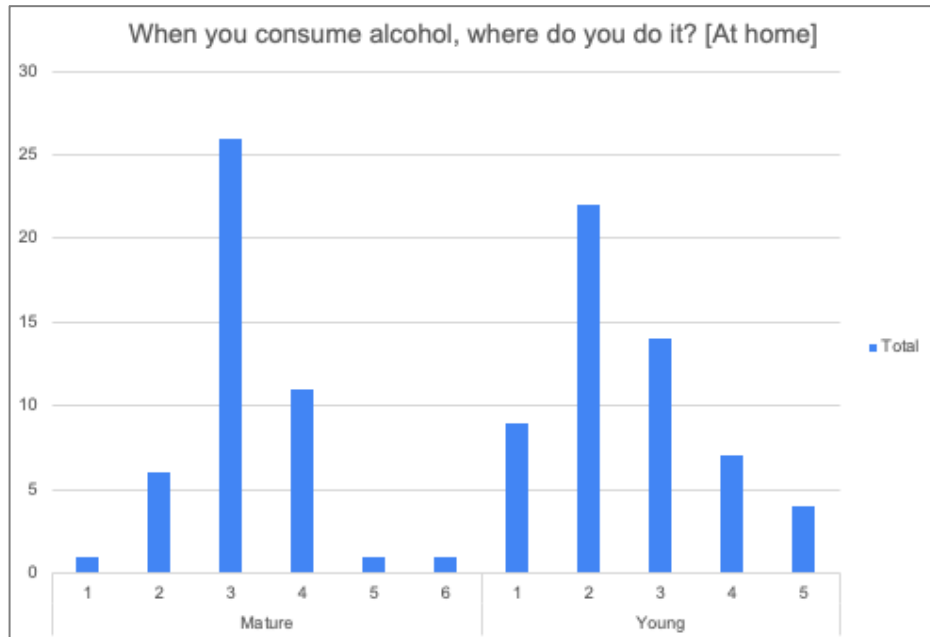
H0: There is no difference in the frequency of home drinking according to age.

H1: There is a difference in the frequency of home drinking according to age.

Variances are not equal ( $0.007 < 0.05$ )  $\rightarrow$  p-value =  $0.002 < 0.05$   $\rightarrow$  H0 is rejected so H1 is validated meaning that there is a difference in the frequency of home drinking according to age.

On the following figure, we can see that the mature category tends to drink more frequently at home than the young category.

Figure 33: bar chart for the 25<sup>th</sup> hypothesis



Source: own processing

As a reminder, 1 = Never; 2 = Rarely; 3 = Occasionally; 4 = Often; 5 = Very often; 6 = Always.

- Hypothesis 26: Age and frequency of alcohol consumption in bars and restaurants

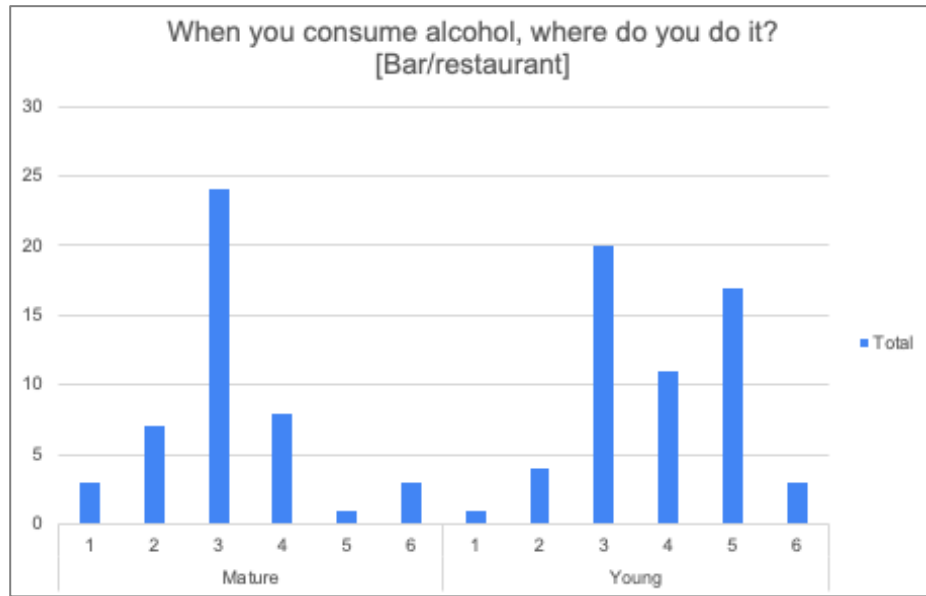
H0: There is no difference in the frequency of alcohol consumption in bars and restaurants according to age.

H1: There is a difference in the frequency of alcohol consumption in bars and restaurants according to age.

Variances are equal ( $0.118 > 0.05$ )  $\rightarrow$  p-value =  $0.002 < 0.05$   $\rightarrow$  H0 is rejected so H1 is validated meaning that there is a difference in the frequency of alcohol consumption in bars and restaurants according to age.

On the following figure, we can observe that younger people tend to drink more frequently in bars and restaurants than older people.

Figure 34: bar chart for the 26<sup>th</sup> hypothesis



Source: own processing

As a reminder, 1 = Never; 2 = Rarely; 3 = Occasionally; 4 = Often; 5 = Very often; 6 = Always.

- Hypothesis 27: Age and frequency of alcohol consumption in a private environment (excluding the respondent own home)

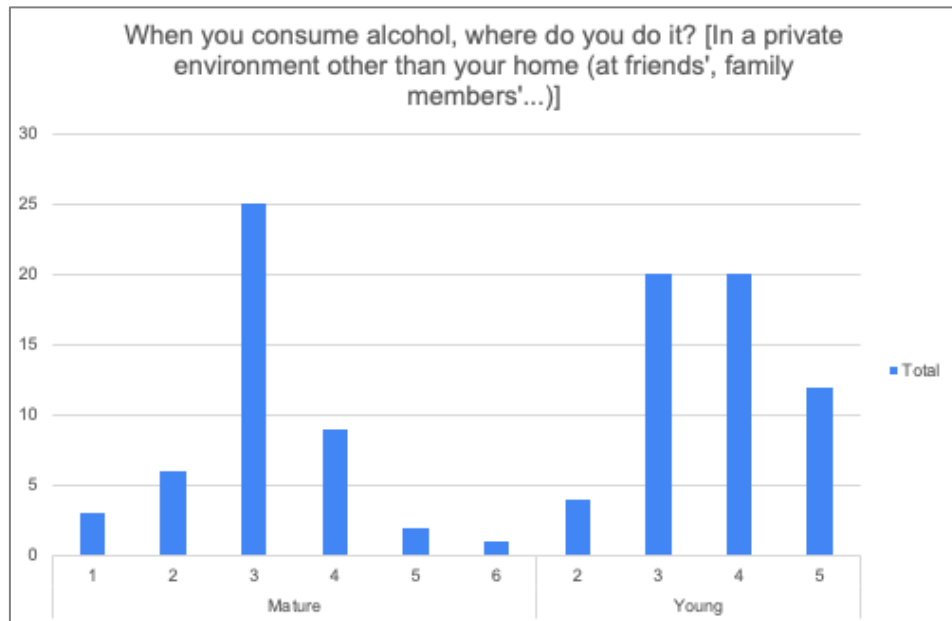
H0: There is no difference in the frequency of alcohol consumption in a private environment according to age.

H1: There is a difference in the frequency of alcohol consumption in a private environment according to age.

Variances are equal ( $0.380 > 0.05$ )  $\rightarrow$  p-value =  $0.001 < 0.05 \rightarrow$  H0 is rejected so H1 is validated meaning that there is a difference in the frequency of alcohol consumption in a private environment according to age.

On the following figure, we can notify that the young category tends to drink more frequently in a private environment other than their own home than the mature category.

Figure 35: bar chart for the 27<sup>th</sup> hypothesis



Source: own processing

As a reminder, 1 = Never; 2 = Rarely; 3 = Occasionally; 4 = Often; 5 = Very often; 6 = Always.

## 5. Results and discussion

### 5.1 Summary and discussion

After the testing of 27 hypotheses, it turns out that some assumptions were verified, others were denied, and new assumptions can be made from the results. The following table summarizes the results of the hypotheses testing.

Table 1: Summary and results of the hypotheses

N°	Hypotheses	Results
1	Gender and alcohol consumption are related	Not related
2	Age and alcohol consumption are related	Variables are related
3	Gender and alone drinking behavior are related	Variables are related
4	Age and alone drinking behavior are related	Not related
5	Gender and binge drinking are related	Not related
6	Age and binge drinking are related	Variables are related
7	Gender and weekly alcohol consumption are related	Not related
8	Age and weekly alcohol consumption are related	Variables are related
9	Gender and social pressure to drink are related	Not related
10	Age and social pressure to drink are related	Variables are related
11	Gender and perception of one's drinking as problematic are related.	Not related
12	Age and perception of one's drinking as problematic are related.	Not related
13	Gender and perception of alcohol as a drug are related	Not related
14	Age and perception of alcohol as a drug are related	Not related
15	Age and receiving prevention about the dangers of alcohol use and its consequences are related	Variables are related
16	Gender and the time of day of alcohol consumption are related	Not related
17	Age and the time of day of alcohol consumption are related	Variables are related



18	Gender and consuming 5 or more drinks in the same occasion are related	Variables are related
19	Age and consuming 5 or more drinks in the same occasion are related	Variables are related
20	There is a difference in the age of the first alcohol consumption according to gender	No difference
21	There is a difference in the age of the first alcohol consumption according to age	No difference
22	There is a difference in the frequency of home drinking according to gender	No difference
23	There is a difference in the frequency of alcohol consumption in bars and restaurants according to gender	No difference
24	There is a difference in the frequency of alcohol consumption in a private environment (excluding the respondent own home) according to gender	No difference
25	There is a difference in the frequency of home drinking according to age	Statistical difference
26	There is a difference in the frequency of alcohol consumption in bars and restaurants according to age	Statistical difference
27	There is a difference in the frequency of alcohol consumption in a private environment (excluding the respondent own home) according to age	Statistical difference

Source: own processing

Gender was expected to have a central role in the difference of attitudes towards alcohol among French people. It was expected that men drink more, more frequently and at a younger age than women. However, not all these assumptions have been validated following the questionnaire's results and the statistical testing. Only two hypotheses about gender prove to be statistically relevant: it appears that men are more likely to drink alcohol alone compared to women and that men are more likely to drink 5 or more drinks in the same occasion in comparison with women. Thus, the results do not permit to say that men drink more frequently and at a younger age than women as the hypotheses 7 and 20 show no relation and no difference according to gender. With our two validated hypotheses, it is

possible to affirm that some attitudes towards alcohol are more masculine such as drinking in high quantity on one occasion and drinking alone. Lambrette (2014) would probably not be surprised as he wrote that the "male gender" represents a factor of vulnerability at the level of exposure to addictive facts, and this through three aspects: the attraction of the product or the behavior, the frequency and the addictive intensity which is sought. Thus, the attraction to the product could explain why men tend to drink alone more than women and the seeking of the addictive intensity could explain why men are more inclined to drink 5 or more drinks in the same occasion than women. However, for the rest of the hypotheses and especially for the frequency that Lambrette (2014) evokes but that is not verified with our questionnaire – it can mean two things: either the sample is not big enough to have conclusive data or either it can signify that the behaviors of men and women towards alcohol tend to merge, and the differences become more and more blurred.

Surprisingly, age turned out to be the decisive factor to explain the change of attitudes in the way of how alcohol is consumed by French people. Young people are more likely to drink alcohol, to do it weekly, to drink 5 or more drinks in the same occasion, to practice binge drinking and to drink in bars and restaurants or in a private environment other than their home compared to older people. The young category is also more likely to feel pressured to drink alcohol than the mature category. Finally, the results obtained show that young people exclusively drink in the evening whereas the mature category can drink during daytime. There are different plausible explanations to these numerous differences.

The fact that young people tend to feel pressure to drink alcohol, that they engage in binge drinking or that they tend to drink in large quantities during the same evening can be explained by social mechanisms that are put in place at these ages. Indeed, it is at this time, that social pressure appears, that the importance of the group is omnipresent, that the collective sometimes takes precedence over the individual and his convictions, decisions and behavior. There is a need to prove oneself, to fit in, to do as the others do and even to do more and better than the others. In a newspaper article, the author Lochouarn (2015) refers to the phenomenon of group conformism to explain these behaviors. In the same article, Phan – an addictologist psychiatrist – explains that young people can have personal worries or concerns about the future, and it can lead to heavy drinking behaviors. It is a way for them to release stress. Phan also specifies that for the majority of these people, it is only a phase

that will not last, which explains the differences of attitudes between the young and the mature categories.

About the locations where the drinking occurred, the explanation is logical: young people do not necessarily have their own home, so they find other places to consume alcohol such as bars and restaurants or someone else home. On the opposite side, the people forming the mature category are more likely to have their own home, so they are freer to behave et do what they want, which explains why older people consume more alcohol at home than younger people. Moreover, they might have children to look after, so they cannot afford to leave their home to consume alcohol in bars or someone else home.

Regarding whether to drink alcohol or not, when to drink it, or the frequency of consumption, the differences are mainly explainable by a change in lifestyle. This may be due to the arrival of a child (Brierley-Jones et al., 2014), or to health problems that arise with age. On the seven respondents that don't drink alcohol, they all belong to the mature category meaning that all the young respondents drink alcohol. Young people are also more likely to drink more frequently but only during the evening whereas older people drink also during daytime. The only respondents that answered drinking during the day were from the mature category. The lives and the responsibilities going along being different, the way of consuming alcohol change over time.

So far, all the differences in the attitudes occurred on the scale of a lifetime. But some differences are seen across time. It is important to notice that age and prevention received about the dangers of alcohol use and its consequences are related. More specifically, young people assisted to more interventions about the dangers of alcohol and its consequences than older people. This reflects a more global trend, the greater investment of public authorities in the prevention of addictive substances of which alcohol is a part. One way of doing it, was to promote interventions in schools. However, a key point to raise is that despite the greater amount of prevention interventions received by young people about alcohol and the dangers it represents, it is these same young people who practice binge drinking. It confirms what affirmed Kelly-Weeder et al. (2011) about prevention. They established that primary prevention programs that have used exclusively educational approaches have received mixed results. Thus, the effectiveness of the public authorities' actions can be doubted. Moreover, Touillier-Feyrabend (2006) explained that advertising changes consumer behavior and preferences, not the total amount of alcohol consumed, as the latter is mainly determined by prices and the place of alcohol in the culture of the country of origin. In conclusion, it would

seem that part of the reason why young people binge drink is based on these two elements: prevention is partly ineffective, and price and cultural habits and norms may have more influence than prevention spots.

Although the image around alcohol and its excesses has evolved, there is still a certain ambivalence. To the question 'Have you ever had a drinking behavior that can be associated with binge drinking? Binge drinking = drinking with an intentional and organized search for drunkenness that often takes place in a group', 48% of respondents answered no. On the other hand, to the question 'Have you ever had more than 5 drinks on one occasion?' not even 16% of the respondents say no. However, binge drinking named API in French and meaning literally punctual heavy drinking, corresponds to the consumption of more than 5 drinks on a single occasion (MILDECA, 2017). French people seem to have no problem admitting to the number of drinks consumed during an evening, but on the other hand they do not seem to associate their drinking habits with behaviors defined by precise terms with a pejorative connotation such as binge drinking for example. More generally, this means that the French have difficulties recognizing that they are potentially having risky drinking behaviors and habits. That is the reason why, the answers to the question 'Have you ever thought that your relationship with alcohol could be problematic/dangerous?' need nuance.

## 5.2 Recommendations

The study has established that age is a decisive factor in the study of the evolution of French drinking behavior. However, it is difficult to know if it is an evolution that each human being experiences during his or her life independently of the time in which he or she lives, or if it is a more global evolution - an evolution of society, of morals and norms - that leads to this certain form of rupture, to these differences observed between the youngest and the oldest generations.

To answer this question, a new survey must be conducted with a larger sample and more precise age categories. In addition, more specific questions on their perception of the place of alcohol in the society in which they live would make it possible to estimate whether this is a societal evolution or not. Besides, the criterion of social class could also be added in order to have a more complete study.

## 6. Conclusion

It is undeniable that the consumption of alcohol by the French is constantly decreasing since the 1960s. The French consume less and differently. This decrease in alcohol consumption is mainly due to a decrease in wine consumption. It should also be noted that while wine consumption is decreasing, beer consumption has tended to increase. One wonders whether this part of the French cultural identity which is based on wine is not gradually disappearing. If it is impossible to affirm or deny it for the moment, it would be interesting to follow the evolution of the quantities sold and consumed by the French of these two alcohols in the future.

Moreover, if alcohol consumption in France is decreasing, this does not mean that the consumption attitudes of the French are exemplary. It has been established that 10% of French people consume alcohol daily (Santé Publique France, 2020) and that one French person out of four has an excessive consumption of alcohol (Ouest France, 2021). How to explain that such behaviors persist when the dangers related to alcohol and its consumption are now recognized almost unanimously, laws have been passed and public health authorities broadcast prevention advertisements.

There are several reasons for the continuity of such behaviors. First of all, there is an intrinsic argument for alcohol. Alcohol is ubiquitous: both on the side of pleasure and that of suffering. When alcohol is not consumed excessively, for example through addiction, it benefits from a good image because it brings a lot of pleasure to consumers, it is the symbol of a moment of sharing and celebration. And since the health damages are not felt in the immediate or near future, it is easy to conceal the risks that its consumption presents especially when in the collective imagination, the French paradox remains underlying. Besides, the differences in budget allocated to advertisements between the private alcohol lobbies and the public authorities are such that prevention spots can appear derisory in comparison. Especially since the prevention spots on the dangers of alcohol are not directed at defined targets. Yet the results are clear: people's drinking behaviors vary according to a variety of factors. The study shows that gender and age influence people's behaviors. If only these two factors were tested, it would be interesting to also take into account the

professional situation and the socio-professional category of the French to know the influence that these factors can have on their alcohol consumption. Moreover, the statistical study of the hypotheses shows that gender influences certain behaviors, however gender has a smaller impact than expected to explain the differences in consumption. It would be interesting to know if the social movement of women's emancipation could have influenced what appears to be a reduction in the differences in alcohol consumption between men and women.

Finally, if we do not have the necessary hindsight to analyze the impact that Covid and the lockdowns may have had on the French and their alcohol consumption, certain trends are already observable and can be subject to initial hypotheses. If since the 1960s alcohol consumption had been declining, in 2020, due to the lockdowns and the pandemic, consumption dropped drastically. However, in the following year, it increases again. Not only is this quantity on the rise again, but it is predicted that in the future the quantity will be higher than before Covid. If we cannot strictly speaking speak of war to refer to Covid, it is however certain that this event had a real impact on the French population and more generally on the world, an impact of which we are still unable to evaluate all the consequences. However, it turned out that after the two world wars (1914-1918 and 1939-1945), the reconstruction of France was accompanied by a gradual realcoholization (Durouchoux, 2009). Thus, France may be at a new turning point, and the next few years will be decisive.

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## 8. Appendix

- List of questions asked in the questionnaire

### 1. *Presentation*

- Gender

Female

Male

I would rather not say

- Age

Open question (Recoded)

### 2. *Background*

- Do you drink alcohol?

Yes/no question

- If no, could you explain in a few words, why do you not drink alcohol?

Open question

- At what age did you first drink alcohol?

Before age 10 (recoded in 1)

Between 10 and 12 years old (recoded in 2)

Between 13 and 15 years old (recoded in 3)

Between 16 and 18 years old (recoded in 4)

After the age of 18 (recoded in 5)

- In what context did this consumption take place?

Family setting

In a friendly environment

I do not remember

### 3. *Places of consumption*

- Where do you most often drink alcohol?

- At home

Never (recoded in 1)

Rarely (recoded in 2)

Occasionally (recoded in 3)

Often (recoded in 4)

Very often (recoded in 5)

Always (recoded in 6)

- Bar/restaurant

Never (recoded in 1)

Rarely (recoded in 2)  
Occasionally (recoded in 3)  
Often (recoded in 4)  
Very often (recoded in 5)  
Always (recoded in 6)

○ In a private setting other than your home (friends, family members...)

Never (recoded in 1)  
Rarely (recoded in 2)  
Occasionally (recoded in 3)  
Often (recoded in 4)  
Very often (recoded in 5)  
Always (recoded in 6)

○ In a professional setting (afterwork...),

Never (recoded in 1)  
Rarely (recoded in 2)  
Occasionally (recoded in 3)  
Often (recoded in 4)  
Very often (recoded in 5)  
Always (recoded in 6)

○ In an outdoor setting (park, parking lot...)

Never (recoded in 1)  
Rarely (recoded in 2)  
Occasionally (recoded in 3)  
Often (recoded in 4)  
Very often (recoded in 5)  
Always (recoded in 6)

#### **4. *Types of consumption***

- What types of alcohol do you consume in majority?

Liquors  
Wines  
Beers  
Champagne

- When buying alcohol, what criteria do you consider?

Brand  
Price  
Design (shape of the bottle, label...)  
Recommendations of others  
% of pure alcohol

- When do you mainly drink alcohol?

During the day

In the evening

### 5. *Drinking habits*

- For which reasons do you drink alcohol?

In a festive setting

In a family setting (meals, ...)

During meetings with friends

For the taste

For the sensations it brings (easier to approach people...)

To fit in

To maintain a social image (fear of judgment in case of refusal to consume)

To forget one's problems

By addiction

- Have you ever felt drunk?

Yes/no question

- Have you ever had a drink that can be associated with binge drinking (drinking with an intentional and organized search for drunkenness that often takes place in a group)?

Yes/no question

- Have you ever consumed alcohol alone?

Yes/no question

- Do you drink alcohol weekly?

Yes/no question

- On average, how many times a week do you drink alcohol?

Once per week (recoded in 1)

2 times a week (recoded in 2)

3 times a week (recoded in 3)

4 times a week (recoded in 4)

5 times or more per week (recoded in 5)

- On average, how many times a month do you drink alcohol?

1 to 2 times per month (recoded in 1)

3 to 4 times a month (recoded in 2)

5 to 6 times a month (recoded in 3)

7 to 8 times a month (recoded in 4)

More than 8 times a month (recoded in 5)

- When you drink alcohol, how many drinks do you have on average?

1 (recoded in 1)

2 (recoded in 2)

3 (recoded in 3)

4 (recoded in 4)

5 or more (recoded in 5)

- Have you ever had more than 5 drinks in one evening?  
Yes/no question

- If yes, how often do you have more than 5 drinks in the same occasion/evening?  
More than once a week (recoded in 8)  
Once a week (recoded in 7)  
1 time every 2 weeks (recoded in 6)  
Once a month (recoded in 5)  
1 time in the last 3 months (recoded in 4)  
1 time in the last 6 months (recoded in 3)  
1 time per year (recoded in 2)  
Less than once a year (recoded in 1)

## **6. *Relationship to consumption***

- Do you consider alcohol as a drug?  
Yes/no question

- In your opinion, can alcohol be considered a drug like tobacco, cannabis, etc.?  
Yes/no question

- In a few words, how would you describe your relationship with alcohol, your way of consuming it?  
Open question

- Have you ever thought that your relationship with alcohol could be problematic/dangerous?  
Yes/no question

## **7. *Impact of advertising/society***

- Have you ever felt alcohol as a social pressure?  
Yes/no question

- Have you ever received any school or work-related prevention about the dangers of alcohol use and its consequences?  
Yes/no question

- If yes, how many interventions have you had?  
1 (recoded in 1)  
2 (recoded in 2)  
3 or more (recoded in 3)

- Do you feel that there is enough prevention about the dangers of alcohol consumption?  
Yes/no question

- Do you know any laws or regulations linked to the alcohol consumption and its limitation?

Yes/no question

- If yes, could you tell me the name of the law or its principles in a few words?

Open question

- List of abbreviations and translations

ANEV: Association nationale des élus de la vigne et du vin → National association of the elected officials of the vineyard and the wine

API: Alcoolisation ponctuelle intense → Heavy drinking behavior or binge drinking

CNIV: Comité National des Interprofessions des Vins à appellation d'origine et à indication géographique → National Committee of Interprofessions of Wines with designation of origin and geographical indication

FRA: Fondation pour la recherche en alcoologie → Foundation for Research in Alcoholism

HPST: Hôpital, patients, santé, territoires → Hospital, patients, health, territories

IREB: Institut de recherche scientifique sur les boissons → Institute of scientific research on beverages

MILDECA: Mission interministérielle de lutte contre les drogues et les conduites addictives → Interministerial mission for the fight against drugs and addictive behaviors

MILDT: Mission Interministérielle de Lutte contre la Drogue et la Toxicomanie → Interministerial Mission for the Fight against Drugs and Drug Addiction

OFDT: Observatoire français des drogues et des tendances addictives → French Observatory of Drugs and Addictive Tendencies

SPSS: Software Package for Social Sciences

WHO: World Health Organization

INED: Institut national d'études démographiques → National Institute of Demographic Studies

Santé publique France → National Public Healthcare Agency

Ministère de l'Agriculture et de la Souveraineté Alimentaire → Ministry of Agriculture and Food Sovereignty