

Universidade de Trás-os-Montes e Alto Douro

**Analysis of wine consumer preferences: an
experimental approach**

PhD thesis in Development, Societies & Territories

Carla Cristina Ferreira

Supervisors:

Doutora Lina Lourenço-Gomes

Doutora Lígia Costa Pinto



Vila Real, 2020

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Abstract

Wine consumption is an integral part of Portuguese life and culture. Wine is considered an “information-intensive” product, as its quality can only be evaluated post-consumption. The complexity of wine market renders the choice of wine as a risky decision for most consumers. The decision-making process is very complex and involves a number of wine features combined with consumers’ specific characteristics, such as gender, knowledge, and consumer habits. Thus, the understanding of wine consumer behaviour is key for the successful development of firms and for the economic development of any wine region.

The aim of this thesis is to contribute to a better understanding of the wine consumption experience, particularly on how different extrinsic cues influence consumers’ decision-making process, thus contributing for the development of more competitive products and firms enhancing the sustainability of wine regions. Specifically, we explore the influence of consumers’ gender on the effect of extrinsic cues influencing consumers’ behaviour at the moment of choosing a wine bottle (chapter 2); how self-reported wine knowledge influences the choice behaviour (chapter 3); the effect of region of origin on experienced, expected and perceived quality of wine (chapter 4); and the effect of region of origin on wine consumer’s willingness to pay under different information conditions (chapter 5).

In first study (chapter 2) five focus groups, involving 45 regular wine consumers (22 women and 23 men) from four Portuguese wine regions were conducted. Two projective techniques and a short questionnaire were included in each session. The results suggest that women and men conceptualize wine in different ways: women associate wine to the context of consumption; while men associate wine to convivial and sensorial pleasure. Regarding wine choice, region of origin and prior knowledge experience seem to be the main reasons for men to choose a particular wine bottle. On the other hand, women seem to opt more for a particular wine brand taking into account previous wine experience. Front label descriptors, such as region of origin, awards and illustration of region, seem to be most relevant to women. For men the back-label information (grape variety, world heritage site and wine history) is more important at moment of choice. This paper is published in the *International Journal of Wine Business Research*, Vol. 31 No. 4, pp. 618-639. <https://doi.org/10.1108/IJWBR-08-2018-0040>.

In second paper (chapter 3), a source triangulation combining qualitative and quantitative methods was applied. The findings suggest that self-reported wine knowledge is an important

variable to understand wine consumers' behaviour. For example, low knowledgeable participants evaluate the quality of wine considering the brand, food pairing, alcohol content, and wine image. Inversely, very knowledgeable participants base their evaluation on quality cues such as region of origin, grape variety, and alcohol content. This research contributes to a deeper understanding of the effect of self-reported knowledge on the evaluation of quality cues, differentiating consumer liking. Additionally, a source triangulation was used to provide a means to cross-validate results from two information sources within a context mimicking real choice.

The third paper (chapter 4) uses an experimental design to elicit consumer preferences through liking scores in three different information conditions. A sample of 136 regular wine consumers from several Portuguese wine regions was collected. The findings indicate that the region of origin affects both the sensory profile, the consumer expectations, and the consumer informed liking. Using the assimilation-contrast approach, the percentage of dissonance and moderating effect of information vary by region of origin. These findings show that consumers' knowledge provides a useful basis for segmenting the wine market and offer interesting possibilities in terms of how to understand the strength of a region as a brand.

Lastly, in the fourth paper (chapter 5) an experimental auction mechanism was developed to evaluate consumers' willingness to pay under two information scenarios: i) blind tasting followed by extrinsic information and ii) full information provided at once. A sample of 168 regular wine consumers from several Portuguese wine regions was collected. The findings reveal that on average consumers are willing to pay higher prices in the full information condition. Taste scores have a positive effect on individual willingness to pay, and the region of origin influences the hedonic evaluation. However, purchase frequency and less self-knowledge have a negative effect on willingness to pay. This thesis intends to contribute to a better understanding of Portuguese wine consumers' choice behaviour through an integrative approach of perceptions, liking measurements, wine knowledge and willingness to pay.

Resumo

O consumo de vinho faz parte da vida e cultura dos portugueses. O vinho é considerado um produto “intensivo em informações”, onde a sua qualidade só pode ser avaliada após o consumo. A complexidade do mercado de vinho torna a escolha deste produto uma decisão difícil e arriscada para a maioria dos consumidores. O processo de tomada de decisão é muito complexo e envolve vários atributos de vinho combinados com características específicas dos consumidores, tais como género, conhecimento e hábitos de consumo. Assim, compreender o comportamento do consumidor de vinho é fundamental para a sustentabilidade das empresas e para o desenvolvimento económico da região vitivinícola.

O objetivo desta tese é contribuir para uma melhor compreensão da experiência de consumo de vinho, em particular, do modo como diferentes informações extrínsecas influenciam o processo de tomada de decisão contribuindo, desta forma, para o desenvolvimento de produtos e empresas mais competitivas essenciais para a sustentabilidade das regiões vitivinícolas. Para esse fim, explorámos o efeito do género na importância atribuída a atributos extrínsecos, e por conseguinte, no comportamento de escolha de um vinho (capítulo 2); investigámos como o conhecimento autoavaliado sobre vinho influencia o comportamento de escolha (capítulo 3); investigámos o efeito da região de origem na qualidade experimentada, esperada e percebida (capítulo 4); e analisámos o efeito da região de origem na disposição a pagar do consumidor (capítulo 5).

No primeiro estudo (capítulo 2) foram realizados cinco grupos de discussão (grupos de foco), envolvendo 45 consumidores regulares de vinho (22 mulheres e 23 homens) em quatro regiões vitivinícolas portuguesas. Em cada sessão foram incluídas duas técnicas projetivas e um pequeno questionário. Os resultados sugerem que mulheres e homens têm perceções sobre o vinho diferentes: as mulheres associam o vinho ao contexto de consumo; enquanto os homens associam o vinho ao convívio e perfil sensorial. Em relação à escolha do vinho, a região de origem e a experiência anterior parecem ser as principais razões para os homens escolherem este produto. Por outro lado, as mulheres optam mais por uma marca específica de vinho e experiência anterior. A informação do rótulo frontal (como região de origem, prémios e ilustração da região) define-se como a mais relevante para as mulheres. Para os homens, as informações do contrarrótulo (casta, património mundial e história do vinho) mostram-se mais importantes no momento da escolha. Este artigo está publicado no *International Journal of Wine Business Research*, vol. 31 No. 4, pp. 618-639. <https://doi.org/10.1108/IJWBR-08-2018-0040>.

No segundo artigo (capítulo 3) foi aplicada uma triangulação de fontes, combinando métodos qualitativos com métodos quantitativos. Os resultados sugerem que o autoconhecimento sobre o vinho é uma variável importante para compreender o comportamento do consumidor. Por exemplo, participantes com baixo conhecimento avaliam a qualidade do vinho pensando na marca, combinação com a comida, teor alcoólico e na imagem do vinho. Pelo contrário, os participantes com elevado conhecimento baseiam a sua escolha em atributos de qualidade, como a região de origem, o tipo de castas e o teor de álcool. Deste modo, esta pesquisa contribui para um entendimento mais alargado do efeito do conhecimento autoavaliado na avaliação dos sinais de qualidade e na diferenciação do gosto do consumidor. Além disso, foi aplicada uma triangulação de fontes para fornecer um meio de validação cruzado de duas fontes de informação, num contexto que imita uma escolha real.

No terceiro artigo (capítulo 4) foi realizado um delineamento experimental para obter as preferências do consumidor através do nível de satisfação em três condições de informação diferentes. Foi recolhida uma amostra de 136 consumidores regulares de vinho em várias regiões vitivinícolas portuguesas. Os resultados indicam que a região de origem afeta o perfil sensorial, as expectativas e o gosto informado do consumidor. Usando a abordagem de assimilação - contraste, a percentagem de dissonância e efeito moderador da informação variam de acordo com a região de origem. Estes resultados mostram que o conhecimento dos consumidores fornece uma base útil para segmentar o mercado de vinhos, e oferecem possibilidades interessantes da forma como entender a força de uma região como sendo uma marca.

Por fim, no quarto artigo (capítulo 5) foi realizado um mecanismo de leilão experimental para avaliar a disposição a pagar dos consumidores em dois cenários de informação: i) prova cega, seguida de informação extrínseca da região de origem e ii) informação completa fornecidas de uma só vez. Foi recolhida uma amostra de 168 consumidores regulares de vinho de várias regiões vitivinícolas portuguesas. Os resultados revelam que, em média, os consumidores estão dispostos a pagar preços mais altos em condições de informação completa. A região de origem influencia a avaliação hedónica feita pelos consumidores; O sabor tem um efeito positivo na disposição a pagar. Contudo, a frequência de compra e um menor conhecimento autoavaliado sobre o vinho têm um efeito negativo na disposição a pagar. Esta tese pretende contribuir para uma melhor compreensão do comportamento de escolha dos consumidores Portugueses de vinho, através de uma abordagem integrativa das perceções, avaliação hedónica, conhecimento de vinho e disposição a pagar.

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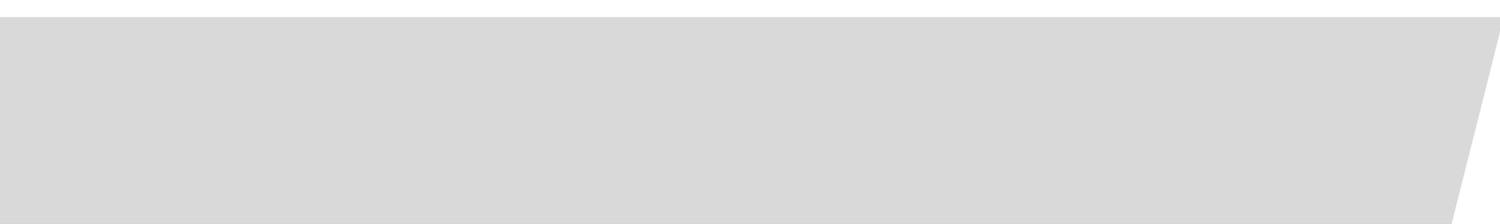
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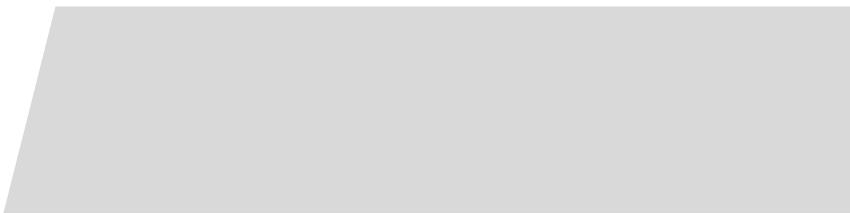
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Chapter 1

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Chapter 1. GENERAL INTRODUCTION

1.1. Wine market: An overview of the Portuguese market

The entry of new companies and the increased competition with other alcoholic beverages, such as beer and spirits, have made the wine market more and more competitive. Also, a decline in per capita wine consumption in traditionally producing countries, and a change in consumption patterns have increased wine market competitiveness (Rebelo, Lourenço-Gomes, Gonçalves, & Caldas, 2019). According to the OIV Statistical Report on World Viticulture (OIV, 2018), wine consumption in France decreased 2,7% between 2013 and 2016 while, for example in Poland wine consumption increased 21.5% in same period. Portugal is typically perceived as a country of wine. In 2016, Portugal was the 12th largest wine consumer in the world with a consumption of 470 ML (Megaliter) and 2nd largest wine consuming country among European countries. Regarding consumption patterns by gender, in Portugal, as in the majority of European countries, men overcome women by 15 L of pure alcohol per capita. In 2016, men consumed 20,5 L of pure alcohol per capita and women consumed 5,1 L (WHO, 2018).

The domestic sales of Portuguese wines from 2011 to 2016 are detailed in Table 1.1. In 2016, 472,5 ML of wine with a total of 2 810 million euro were sold. Comparing the participation of each category, still wines represented 92,8 % of total sales by volume and 79,5% of total sales by value. Port wine was the second most important followed by sparkling wine. Thus, the Portuguese wine market is dominated by still wine, particularly red wine.

Table 1.1- Domestic sales of Portuguese wines between 2011 and 2016: volume and value by category

| Category | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|-------------------------------------|---------|---------|---------|---------|---------|---------|
| Unit: Volume /(ML) | | | | | | |
| Fortified wine | 22,6 | 22,2 | 22,0 | 21,9 | 22,4 | 23,2 |
| Sparkling wine | 8,2 | 8,6 | 9,3 | 9,9 | 10,0 | 10,9 |
| Still wine | 459,3 | 439,3 | 414,1 | 407,8 | 424,2 | 438,4 |
| Red | 304,8 | 296,5 | 281,0 | 244,0 | 287,9 | 296,2 |
| Rosé | 30,2 | 30,6 | 31,6 | 32,2 | 32,6 | 36,2 |
| White | 124,3 | 112,1 | 101,5 | 98,5 | 102,7 | 106,0 |
| Total | 490,0 | 470,1 | 445,3 | 439,7 | 456,8 | 472,5 |
| Unit: Value / (Million euro) | | | | | | |
| Fortified wine | 453,3 | 445,8 | 444,8 | 442,3 | 456,7 | 478,2 |
| Sparkling wine | 76,1 | 74,8 | 77,8 | 82,5 | 87,5 | 95,3 |
| Still wine | 2 244,0 | 2 098,4 | 1 998,0 | 2 051,9 | 2 135,5 | 2 235,1 |
| Red | 1 527,4 | 1 451,5 | 1 395,7 | 1 441,9 | 1 498,3 | 1 537,8 |
| Rosé | 154,2 | 152,9 | 154,5 | 158,0 | 165,9 | 177,5 |
| White | 562,4 | 494,0 | 447,8 | 451,9 | 471,2 | 489,7 |
| Total | 2 779,5 | 2 619,0 | 2 520,6 | 2 578,0 | 2 680,9 | 2 810,0 |

Source: Rebelo *et al.* (2019)

Table 1.2 compares the category distribution (red; rose; white) of off-trade sales. From 2011 to 2016, the volume of high-price segment increased 4,1 p.p in red wine, 3,6 p.p in rose wine and 3,0 p.p in white wine. However, the low-price segment continued to denominate the sales: in 2016, 58,1% of red wine was sold for less than 3,5 €/L. On the supply side, still wines represented 85% of the total Portuguese wine production, in 2016. Historically, Portuguese wine production is structured in 13 demarcated mainland wine production regions, in which the wine can be sold as a certified wine. This certification represents a signal of quality for the consumer, although there are differences as to how the wines connect to the winemaker and contribute to the local economy (Rebelo *et al.*, 2019).

Table 1.2- Domestic sales of still wine (red, rosé, and white) between 2011 and 2016 by price segment (% of volume)

| Type of wine (€/L) | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|--------------------|------|------|------|------|------|------|
| Red wine | | | | | | |
| ≤ 1,99 | 28,7 | 28,8 | 29,9 | 28,9 | 28,7 | 28,7 |
| 2-3,5 | 29,8 | 29,7 | 29,8 | 29,6 | 29,5 | 29,4 |
| 3,51-8.5 | 25,1 | 21,6 | 21,0 | 21,2 | 21,4 | 21,4 |
| 8,51 | 16,4 | 19,9 | 20,2 | 20,3 | 20,4 | 20,5 |
| Rosé wine | | | | | | |
| ≤ 1,99 | 28,9 | 29,1 | 29,5 | 28,7 | 28,1 | 26,8 |
| 2-3,5 | 29,7 | 29,4 | 29,5 | 29,4 | 29,3 | 29,0 |
| 3,51-8.5 | 24,0 | 22,8 | 22,1 | 22,4 | 22,6 | 23,1 |
| 8,51 | 17,4 | 18,7 | 18,9 | 19,5 | 20,0 | 21,0 |
| White wine | | | | | | |
| ≤ 1,99 | 29,9 | 30,0 | 29,8 | 28,5 | 28,0 | 27,4 |
| 2-3,5 | 29,6 | 29,8 | 28,5 | 28,0 | 28,1 | 28,0 |
| 3,51-8.5 | 28,7 | 28,2 | 28,7 | 29,0 | 29,4 | 29,5 |
| 8,51 | 11,8 | 12,0 | 12,7 | 13,9 | 14,5 | 15,1 |

Source: Rebelo *et al.* (2019)

Table 1.3 shows how the domestic market of certified wine is distribute by volume and value between 2013-2018, as well as the average prices in 2016 and 2018 in the off-trade channel. In 2018, 52,3% of the still wine sold did not have a certificate of origin, despite the existing number of demarcated wine regions. Comparing by volume, the Alentejo wine region was the most important (17,3%), followed by Península de Setúbal (8,5%), Minho (7,9%), and Douro (5,4%). Some differences emerged in value terms: Alentejo (27,6%), followed by Douro (11,1%), Minho (10,7%), and Península de Setúbal (10,7%). Regarding average prices, wine from Minho, and Alentejo were traded at lower average prices than the overall average price for certified wines. On the other hand, the wine from Algarve and Douro were sold above the

average price for certified wines. Algarve is a small wine region with an economy dominated by tourism while Douro is a wine region based on a terroir model (Rebelo & Caldas, 2013), producing singular wines in a singular form. The oldest Portuguese demarcated Region, Douro (since 1756) produces two types of wines: fortified wine (specially the famous Port wine) and still wine (Denomination of Origin (DO) Douro wine). By opposition to the famous Port wine, the Douro wine history gained some relevance after Portugal joined the European Union in 1986. Despite the success, Douro wines are everyday challenged by increasingly competitive and sophisticated markets, demanding constant attention for securing the uniqueness and value of the DO Douro wines. In this context, wine and wine making constitutes a true cultural asset in Portugal (Rebelo & Caldas, 2013).

Table 1.3- Domestic market share of certified wine by volume and value between 2013-2016, and average prices in 2016 in the off-trade channel

| | Volume (%) | | | | | | Value (%) | | | | | | Average price (€/L) | |
|----------------------|------------|------|------|------|------|------|-----------|------|------|------|------|------|---------------------|------|
| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2016 | 2018 |
| Algarve | 0,1 | 0,1 | 0,0 | 0,1 | 0,1 | 0,0 | 0,1 | 0,1 | 0,1 | 0,1 | 0,2 | 0,1 | 5,75 | 6,31 |
| Terras de Cister | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 3,22 | 3,36 |
| Douro | 3,5 | 3,8 | 4,5 | 4,7 | 4,9 | 5,4 | 7,4 | 8,1 | 9,1 | 10,0 | 10,7 | 11,1 | 4,50 | 4,94 |
| Beira Interior | 0,2 | 0,2 | 0,2 | 0,1 | 0,1 | 0,1 | 0,3 | 0,3 | 0,3 | 0,2 | 0,2 | 0,2 | 3,61 | 3,85 |
| Trás-os-Montes | 0,9 | 0,7 | 0,1 | 0,1 | 0,1 | 0,1 | 0,7 | 0,5 | 0,1 | 0,1 | 0,2 | 0,2 | 3,08 | 4,68 |
| Terras do Dão | 1,7 | 1,8 | 1,9 | 2,0 | 2,3 | 2,6 | 2,5 | 2,5 | 2,6 | 2,9 | 3,3 | 3,3 | 3,09 | 3,07 |
| Alentejo | 20,8 | 21,3 | 22,4 | 22,9 | 18,6 | 17,3 | 29,5 | 31,1 | 32,6 | 31,8 | 29,9 | 27,6 | 3,19 | 3,83 |
| Minho (Verdes) | 8,6 | 8,4 | 8,0 | 7,6 | 7,6 | 7,9 | 11,8 | 11,7 | 11,6 | 11,2 | 11,0 | 10,7 | 3,10 | 3,27 |
| Lisboa | 1,6 | 1,7 | 1,7 | 1,6 | 2,0 | 2,4 | 1,9 | 2,1 | 2,4 | 2,3 | 2,9 | 3,4 | 2,97 | 3,34 |
| Península de Setúbal | 6,3 | 6,2 | 5,8 | 6,8 | 7,1 | 8,5 | 8,1 | 7,9 | 7,7 | 8,7 | 9,2 | 10,7 | 2,71 | 3,00 |
| Tejo | 2,0 | 1,9 | 1,7 | 1,9 | 1,9 | 2,2 | 2,3 | 2,3 | 2,2 | 2,3 | 2,3 | 2,6 | 2,59 | 2,76 |
| Beiras | 0,2 | 0,3 | 0,1 | 0,0 | 0,0 | 0,0 | 0,2 | 0,3 | 0,0 | 0,0 | 0,0 | 0,0 | 1,91 | 2,33 |
| Beira Atlântico | 0,9 | 0,7 | 0,7 | 0,6 | 0,4 | 0,4 | 0,9 | 0,7 | 0,7 | 0,6 | 0,5 | 0,5 | 2,17 | 2,46 |
| Certified wine | 46,9 | 47,2 | 47,1 | 46,4 | 45,2 | 47,7 | 65,6 | 67,7 | 69,4 | 70,4 | 70,3 | 70,4 | 4,13 | 3,58 |
| No certified wine | 53,1 | 52,8 | 52,9 | 53,6 | 54,8 | 52,3 | 34,4 | 32,3 | 30,6 | 29,6 | 29,7 | 29,6 | 2,10 | 1,34 |

Source: IVV (2019) and Rebelo *et al.* (2019)

1.2. Consumer behaviour

There is a growing interest in the field of consumer behaviour, not only from the marketing area, but also from diverse social sciences. The interest arises from the increasing importance of wine consumption in our daily activities, in sectorial policies and the economic development of the country overall. However, it is most significant in regions where wine production and related activities dominate the regional product. Historically, consumer behaviour (or buyer behaviour) was linked to the study of how consumers decide to purchase products. However, given the large number of activities in which consumers are involved prior to buying and during and after consumption, contemporary definitions are wider and try to explore the full range of consumer activities. The more complete definition indicates that: consumers behaviour involves the totality of consumers' decisions including the acquisition, consumption, and disposition of goods, services, and activities by decision-making units (Hoyer & Macinnis, 2010; Kardes, Cronley, & Cline, 2008). The Figure 1.1 illustrates some elements of the definition of consumer behaviour.



Figure 1.1- Elements of definition of consumer behaviour (source: Hoyer & Macinnis, 2010).

According to the latter definition, consumer behaviour comprises understanding whether, why, where, how, how much, how often, and for how long consumers use, or dispose of a good. However, consumer behaviour does not inevitably follow the action of a single individual

(Hoyer & Macinnis, 2010). The term “consumer” can designate individual or organizational consumers. Individual consumers buy goods or services to satisfy their own personal needs and wants or to offer as gifts. In this sense, several researches have been developed to understand consumers and their complex decisions (Bruwer & Buller, 2012; Bruwer & McCutcheon, 2017; Ellis & Thompson, 2018; Gustafson, 2015; Kammer & Rios-Morales, 2016; Lockshin & Corsi, 2012; Thach & Olsen, 2015). Numerous definitions of consumer emerged in the literature. For Schiffman & Kanuk (2006) a consumer is an individual or organization that buys and/or consumes the goods and services provided by producers; Lancaster & Massingham (2011) defined the consumers as anyone involved in the process of purchasing and using goods or services for personal and household benefits. The most important highlight in these definitions is that consumers participate in an active decision-making process interacting with the sellers and being the target of marketing and advertising efforts (Hoyer & Macinnis, 2010; Kotler, 2011).

There are many factors that can influence consumer behaviour, such as: (1) psychological core; (2) the decision-making process; and (3) consumer’s culture (Hoyer & Macinnis, 2010). For example, to make purchasing decisions, consumers must first get involved in a process of psychologic core. They need to be motivated to perceive and attend to information exposed. They need to think about this information, to form memories and to develop attitudes, where the cultural environment can also affect this process. Social strata, gender, age, families, friends, consumer values and lifestyles affect the decisions that consumers make (Hoyer & Macinnis, 2010). Figure 1.2 shows a model of consumer behaviour.

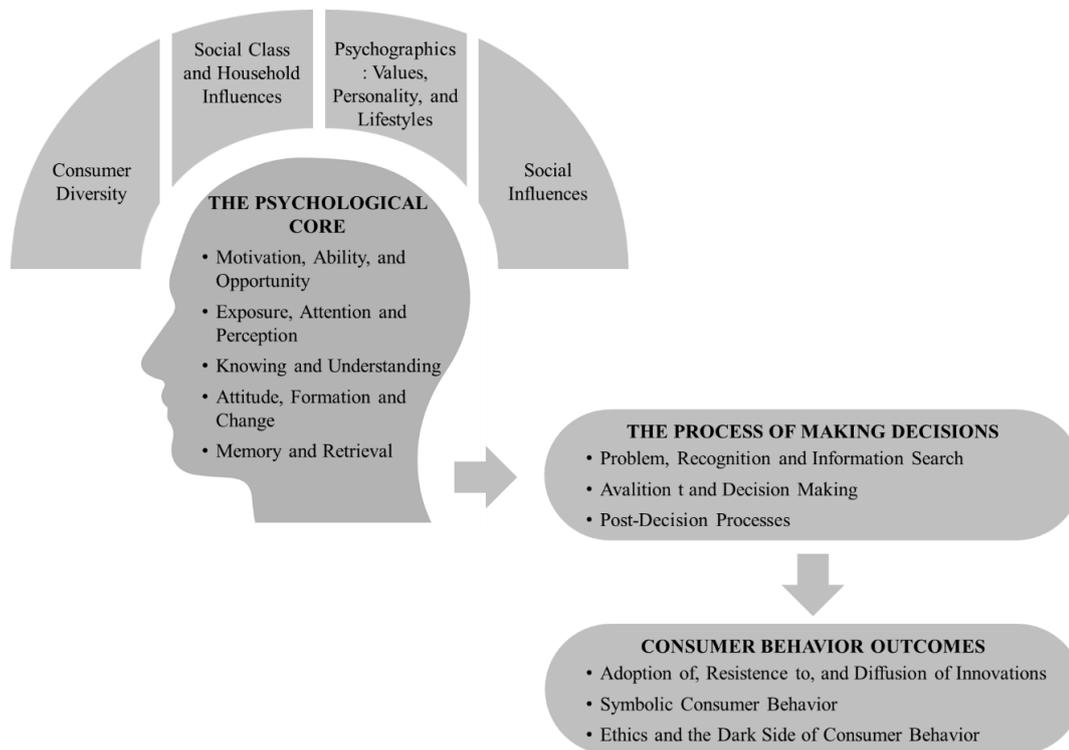


Figure 1.2- Model of consumer behaviour (Source: Hoyer & Macinnis, 2010).

1.2.1. Consumer decision making

Traditionally, consumers' decision making was approached from a perspective of utility theory maximization (Bray, 2008)). This perspective views the consumers as a “rational economic man” and argue that consumers make choices based on the expected outcomes of their decisions, i. e, consumers make decisions based on rationality (Zinkhan, 1992). Rationality means that consumers maximize utility so that the chosen option is a utility maximiser. This theoretical background assumes that the rational individual has a system of preferences that for each decision, they consider all possible alternatives, evaluate the respective expected utility and choose the one with the highest rank (Bray, 2008; Solomon, Bamossy, Askegaard, & Hogg, 2006). This perspective implies that all steps involved in the decision-making should be carefully contemplated in order to understand how the information is found and processed, how beliefs are created and what product choice criteria are specified by individuals (Solomon *et al.*, 2006). However, such a process is not an accurate portrayal of consumption behaviours since some purchasing behaviours are not preceded by any planning at all. In this sense, several approaches

to modelling consumer decision making emerged over time. Table 1.4 shows the theoretical approaches adopted in the study of decision making.

Given the complexity of the decision- making process, consumers may make use of heuristics or mental rules-of-thumb to help their decision-making process. Especially, consumers develop market beliefs over time. The most common belief is that price is positively related to quality. On the other hand, well-known brand names or a product’s country of origin can signal product quality (Solomon *et al.*, 2006).

Table 1.4- Theoretical approaches and their assumptions adopted in the study of decision making

| Theoretical approaches | Assumptions main |
|------------------------|---|
| Economic Man | <ul style="list-style-type: none"> • Rational and self interested individuals; • Individuals make decisions based upon the ability to maximise utility; • Behaviour rationally: the individual would have to be aware of all the available consumption options; |
| Psychodynamic | <ul style="list-style-type: none"> • Based on study of Sigmund Freud; • Behaviour is influenced by biological drives, rather than individual cognition, or environmental stimuli; |
| Behaviourist | <ul style="list-style-type: none"> • Behaviourism is a family of philosophies; • Behaviour is explained by external events; • Actions, thoughts, and feelings can be regarded as behaviours; |
| Cognitive | <ul style="list-style-type: none"> • Cognitive approach based in large part on Cognitive Psychology; • It ascribes observation action (behaviour) to intrapersonal cognition; • Individual is viewed as an “information processor” • Environment and social experience are very important; • It analyses the mental structure and processes which mediate among stimulus and stimulus and response; • Stimulus-Organism-Response models indicate a linear relationship in three stages; • Recently, new models acknowledge the importance of information processing capabilities, as well as which information is sought and received • Four Cognitive Consumer Behaviour Model are mentioned: Consumer Decision Model; Theory of Buyer Behaviour; Theory of Reasoned Action; and Theory Planned Behaviour; • New line of investigation; |
| Humanistic | <ul style="list-style-type: none"> • It seeks to explore concepts introspective to the individual consumer rather than describe generic processes. • <i>Emotion</i>, <i>volition</i>, and <i>egoism</i> are three most pressing areas of research; |

Source: Bray (2008)

1.2.2. Study of Consumer behaviour

The study of Consumer behaviour emerged in the late 1940s based on theories and concepts of anthropology, psychology, sociology, economics, and statistics. Over the past decades, the way researchers study consumer behaviour has been evolving. Three approaches were developed: motivation research, behavioural science, and interpretivism. (Kardes *et al.*, 2008). The motivation research was one of the earliest approaches to the study of consumer behaviour. This method was developed by the psychoanalyst Ernest Dicheter applying psychoanalytic therapy concepts. Ernest Dicheter employed in-depth interviewing techniques to discover a person's hidden or unconscious motivation. He views the consumers as largely immature and irrational, with hidden erotic desires. For years the motivation research was used especially by its seeming ability to understand deep-rooted needs. Critics of this method pointed several methodological limitations: subjective nature of results; strategic and practical limitations; and sexual explanations to most consumer actions. Nevertheless, the motivational research left two major contributions to the field of consumer behaviour: (1) application of in-depth interviewing technique; (2) attention on consumer motivations. Currently, this approach is still employed, but in combination with other techniques and the strong Freudian sexual interpretations are not highlighted (Kardes *et al.*, 2008).

The behaviour science perspective was born in 1960s and since then has dominated the field of consumer behaviour. Also denoted as Positivism, it applies systematic, rigorous procedures to explain, control, and predict consumer behaviour. In this sense, the behavioural researchers tend to observe the consumers as largely rational. Behavioural studies help strategic marketing decision making privileging the use of quantitative methods. These methods include the experimental approach and the marketing science approach. In both, empirical methods are applied through observation, experiment, or experience (Kardes *et al.*, 2008). On the other hand, the interpretivism perspective emerged as an alternative to behavioural science which depends less on scientific and technological methodologies. This approach views consumers as non-rational beings and their reality as highly subjective. Thus, the researchers collect data to describe individual consumers' subjective experience, with a product or service, applying qualitative methods. Despite, the fact that these methods do not allow generalization, they provide a detailed and important description of consumers' experiences which can, in turn, be very useful in developing further questions to understand consumer behaviour (Kardes *et al.*, 2008).

Understanding, explaining, and predicting consumer behaviour are complex tasks. Three steps are necessary: collect the data; analyse the data to discover consumer needs; and to communicate the results to marketers. Table 1.5 summarises the main methods used to collect primary data (Kardes *et al.*, 2008).

Table 1.5- Main methods used to collect primary data

| Data collection methods | Characteristics main |
|-------------------------|---|
| Observation | <ul style="list-style-type: none"> • Possibility to record individuals' behaviour either with or without their knowledge; • It allows the measurement of what individuals actually do, but it does not reveal an individual motivations, attitudes, and preferences; |
| Survey | <ul style="list-style-type: none"> • A set of structured questions an individual is asked to respond; • It is useful for collecting specific, often complex, information from a large number of individuals |
| In-depth interview | <ul style="list-style-type: none"> • The interviewer establishes a link with a respondent and then proceeds with the discussion on the research topic; • It is appropriate for sensitive or emotionally topics; • It tends to be time-consuming, costly, and the data can be difficult to analyse and interpret; |
| Focus groups | <ul style="list-style-type: none"> • A focus group consist of 6 to 12 participants and a moderator who guides the group discussion; • It is conducted for the evaluation of new products, assessing promotional campaigns, and ideas brainstorm; • It is an opportunity to create new ideas or unique insights; • It is susceptible to problems associated with group dynamics; data can be difficult to analyse; |
| Projective techniques | <ul style="list-style-type: none"> • Based on psychology are an indirect form that encourages individuals to project their underlying beliefs, attitudes, feelings, and motivations; • They use exercises to uncover individuals' points of view: word-association tests; completion tests; construction test, expression test, and tasting; |
| Experiments | <ul style="list-style-type: none"> • They manipulate variables in a controlled setting to determine the relationship to another; • They are the best methods to investigate causality; • Randomness of participants in each condition is very important; |

Source: Kardes *et al.* (2008)

1.3. Wine Consumer behaviour

It is widely acknowledged that wine choice making-decision process is difficult for consumers (Sogari, Mora, & Menozzi, 2016). The reason lies with the fact that wine is considered an experience good, where its quality, especially its sensory quality, can only be evaluated during consumption. In addition, it is considered a trust good, given that some quality characteristics cannot be verified either on pre-consumption or post-consumption. (i.e. production methods) (Galati, Schifani, Crescimanno, & Migliore, 2019). Thus, consumers use a variety of cues to make quality judgments. The literature shows that choice decision-making involve a process regarded by most wine consumers as complicated and with considerable risk (Bruwer & Rawbone-Viljoen, 2013; Johnson & Bruwer, 2004). Gluckman (1986) was the first researcher to recognised risk as an influencer in the wine-choice decision-making. This author suggested that marketing strategies should be directed to decrease the insecurity associated with wine choice. Mitchell & Greatorex (1989) applied the first structured research approach to classify the types of risk that influence wine consumers in the UK. Four risk types were found with a hierarchy associated with wine choice behaviour:

- Functional (performance of a product: the wine will taste good, it is suitable for an occasion of consumption)
- Social (social status: family and friends will accept the wine choice)
- Financial (monetary loss: price to quality ratio)
- Physical (health concerns: intoxicating effects, hangover)

Thus, the total level of perceived risk in a specific purchase decision is determined by the joint influence of these four elements. According to the results of Mitchell & Greatorex (1989) the taste was the most important risk factor. Social risk was ranked depending on occasion of consumption. For example, social approval was more relevant in a restaurant setting. In this sense, they identified six ways in which wine consumers can reduce risk in their purchase decisions (Mitchell & Greatorex, 1989; Schiffman & Kanuk, 2006): consumers seek information; brand loyalty; store image; well-known brands; price; and reassurance.

Consumers seek information from several sources, such as product packaging, word-of-mouth, family and friends, opinion leaders, tasting notes, and waiters in a restaurant (Mitchell & Greatorex, 1989). Faced with this wide set of information, consumers tend to make their choices based on one or two cues with high information value. This process is largely related with the level of consumer involvement (Bruwer & Rawbone-Viljoen, 2013). Brand loyalty,

for example, strongly depends on consumer involvement. For example, consumers less informed remain loyal to a brand that previously responded to their needs or they opt for safety by a recognized brand that offer consistency in taste and quality. On the other hand, consumers more informed are likely interested in trying new brands and new wine styles (Chaney, 2000; Larry Lockshin & Spawton, 2001). Store image is related with quality of merchandise, location, and friendly staff service. This strategy is more important when looking for infrequently purchased products (Bruwer & Rawbone-Viljoen, 2013). Well-known brands instil confidence and consumers show lower risk perception. For less experienced consumers well-known brands are more likely to be trusted (Mitchell & Greatorex, 1989). Price becomes a more relevant cue when no other information about the product is available. In this sense, a consumer may believe that he will drink a better wine if he/she purchases a more expensive wine, translating into a high price to quality ratio (Mitchell & Greatorex, 1989). Lastly, reassurance is found mainly through tasting and information seeking behaviour. Wine tasting should be regarded as information gathering (Mitchell & Greatorex, 1989). Several studies demonstrate that prior experience is the most important influence over the buying of wine (Batt & Dean, 2000; Johnson & Bruwer, 2004). With a different approach, Spawton (1991) identifies three types of risk and also six strategies to reduce risk. Table 1.6 compares the approaches for both authors.

Table 1.6- Comparison of previous research study regarding wine consumer risk types and risk-reduction strategies

| Authors | Wine consumer risk types | Wine purchase risk-reduction strategies |
|-------------------------------|--|--|
| Mitchell and Greatorex (1989) | <ul style="list-style-type: none"> • Functional (taste) • Social (family and friends) • Financial (price) • Physical (reaction to the wine) | <ul style="list-style-type: none"> • Consumer seek information • Brand loyalty • Store image • Well-known brands |
| Spawton (1991) | <ul style="list-style-type: none"> • Functional (wrong for occasion, taste) • Social (family and friends) • Psychological • Financial (price) • Economic (relation quality price perceived) | <ul style="list-style-type: none"> • Wine appreciation education • Learn from others • Retail assistants • Known brand |

Source: Johnson & Bruwer (2004)

In this context, understanding key drivers of wine choice is very important for the competitiveness of wine companies across their different market segments (Corduas, Cinquanta, & Ievoli, 2013; Nunes, Madureira, Oliveira, & Madureira, 2016). However, the

identification of these drivers is difficult with the increase in wine styles allied to an increase in the number of brands of domestic and imported wine (Corduas *et al.*, 2013)

1.3.1. Packaging, wine characteristics and region of origin influence the consumer choice

The complexity of the wine market turns the wine purchasing decision a risky activity for most wine consumers (Atkin & Johnson, 2010). Wine is defined as an “information-intensive” product with many intrinsic and extrinsic cues for consumers (Bruwer & Thach, 2013). However, there are many features that can only be evaluated during consumption, that is, the ability of the consumers to gauge quality prior to buying is very low (Atkin & Johnson, 2010). Extrinsic cues are characteristics that can be altered without modifying wine quality, for example, price, brand, packaging, labels, shelf location, and awards (Casini, Corsi, & Goodman, 2009; Galati, Schifani, Crescimanno, & Migliore, 2019; Lockshin & Hall, 2003; Sáenz-Navajas, Campo, Sutan, Ballester, & Valentin, 2013); intrinsic cues are directly linked to the sensory quality of the wine, such as grape variety, alcohol content, colour, and sensory profile. Several studies show that price, brand, region of origin, and labelling are the most cited attributes influencing wine consumers’ preference and quality perception (Lockshin & Hall, 2003; Lockshin & Corsi, 2012). The influence of each attribute on consumers’ choice is detailed below.

Price

The relationship between the price of a product and its quality continues to arouse interest in the economics literature (Oczkowski & Doucouliagos, 2015). Related literature supports that the price is an important cue to quality, especially when there are no other cues available; when the product cannot be assessed before buying; or when there is some degree of risk of making a wrong choice (Dodds & Monroe, 1985; Spawton, 1991; Zeithaml, 1988).

Some research focus on the relationship between extrinsic cues easily perceived by the consumers and wine price such as region of origin (Panzone & Simões, 2009); sensory quality ratings attributed by experienced judges (Combris, Bazoche, Giraud-Héraud, & Issanchou, 2009) and wine variety (Nunes *et al.*, 2016; Schamel & Anderson, 2003) in what concerns label descriptors, Mueller & Szolnoki (2010) suggested that this information could be crucial for consumers when choosing a wine from a shelf. In the same line of research Barber, Almanza, & Donovan (2006) investigated the influence of taste descriptors, food pairing, history of the wine region, and wine making process on wine price. Brentari & Zuccolotto (2011) and

Iannario, Manisera, Piccolo, & Zuccolotto (2012) investigated the importance of label, chemical and sensory features for price formation and making decisions. Further, Mora & Livat (2013) argued that image and reputation influence price decisions, nonetheless other information could also explain price differences.

Brand

A brand symbolizes part of the expectations regarding a product or company. In this context, the brand can replace a set of attributes and simplify their evaluation. However, the wine industry is characterized by an infinity of brand names, complicating consumers' choice behaviour (Lockshin & Hall, 2003). In general, the brand attribute is used to identify the wine within the region of origin (Lockshin & Corsi, 2012). According to Ribeiro & Santos (2008), consumers more familiar with wine regions tend to attribute more relevance to the brand at the moment of choice, than consumers less familiar with the region of origin.

Region of origin

Wine is a product that has a very close link to its region of origin. Empirical evidence shows that the region of origin is one of the main attributes in determining wine quality whilst opposing to other attributes. Several studies demonstrate the effect of the region of origin and appellations of origin on wine consumers' behaviour, especially in "New World" countries (McCutcheon, Bruwer, & Li, 2009; Panzone & Simões, 2009; Perrouy, D'Hauteville, & Lockshin, 2006; Ribeiro & Santos, 2008; Santos, Blanco, & Fernández, 2006). The region of origin can encourage a consumer to choose a particular wine. Commonly, consumers use information about region of origin to interpret the level of wine quality (Atkin & Johnson, 2010).

Lai, Del Giudice, & Pomarici (2008) examined the preferences of Italian wine consumers. Results showed a strong interest in the participants for the region of origin as a first-quality cue. In other research, Lai, Cavicchi, Rickertsen, Corsi, & Casini (2013) found that Norwegian wine consumers give particular attention to the region of origin and to small wineries. However, research about the region of origin effect is not limited only to consumers living in the area. Brown & O'Cass (2006) studied the effect of ethnocentrism on consumer choice at the purchasing moment. Findings suggested that some Australian consumers preferred foreign-sourced products while other consumers favour to buy products made in their own country.

In Europe, the information about the region of origin is one of the most important wine attributes that consumers consider in choice of wine (Chamarro, Rubio, & Miranda, 2015). A large number of studies show its relevance on the individual mental process of buying. Thus, each consumer identifies wine features in different ways: based on his or her needs; shared values; income level; social status, age, gender; and level of wine knowledge (Bruwer & Buller, 2012a; Bruwer & Rawbone-Viljoen, 2013; Charters & Pettigrew, 2006; Madureira & Nunes, 2013).

Labels and Packaging

Many authors have demonstrated that success in wine market is substantially determined by the label design. Visual aspect of a package can influence how the brand and product are perceived by consumers (Celhay, Masson, Garcia, Folcher, & Cohen, 2017; Gmuer, Siegrist, & Dohle, 2015). Thus, the package design is a critical tool for wine marketers to communicate to their customers the positioning of their brand. Producers and marketers of wine use a wide range of labels with different images, colours, fonts, and information to lead the consumer to choose their product. According to Lick, König, Kpossa, & Buller (2017), the relevance of the colour of the label depends on personal characteristics. However, knowing how descriptors of wine label influence the hedonic evaluation is fundamental for design of useful marketing and market segmentation strategies (Lockshin & Hall, 2003).

Conventionally, the legally required information is found on the front label, such as brand, winery's name, region of origin, vintage year, and alcohol content (Gluckman, 1990; Mueller & Szolnoki, 2010). The back label, on the other hand, contains additional information. For example, a winemaker's notes and name, sensory characteristics, and suggested accompanying meals. Many research studies have explored the influence of back label statements on perceived quality of wine (Thomas & Pickering, 2003). Goodman (2009) investigated the effect of wine characteristics on consumer choice in a retail store. Within label descriptors, grape variety, region of origin, brand name, food pairing, and medal or award were elements more cited by consumers when choosing a wine bottle in a store. Mueller, Lockshin, Saltman, & Blanford (2010) in particular identifies the effect of the various back label attributes at the moment of choice.

Currently, a large field of literature addressing consumer perception of both organic wine and eco-friendly labelling emerged. The inclusion of logos and symbols on labelling are tools

to inform consumers and help them make informed choices about an environmentally sustainable product. In same line, Sogari, Mora, & Menozzi (2016) investigate how environmental values and beliefs about sustainable labelling influence consumer attitude towards sustainable wine. The results show that environmental and quality beliefs about sustainable wine influence the consumers' attitude towards sustainable-labelled wine.

1.3.2. Gender, age and knowledge as drivers in wine purchase decisions

Gender

The influence of gender in the identification of market segments is well established in the literature. The main difference in consumer behaviour among women and men is often related to particular characteristics of the two genders. For example, some literature argues that men have less sensitive palate than women and have a smaller ability to identify different smells (Atkin, Nowak, & Rosanna, 2007). Furthermore, information search, confidence, wine price, response to advertisements, health effects, distribution channels and sustainable production (eco-labelling) affect differently women and men consumers' behaviour towards wine (Bruwer, Saliba, & Miller, 2011; Santos & Ribeiro, 2012; Sogari *et al.*, 2016; Thach, 2012).

According to Thomson (2007) presently women buy more wine than in the past, spending more on wine than men did. Regarding information search, women tend to assume a comprehensive information seeking-strategy. Women are more predisposed to look for details at the moment of choice, such as to read labels and shelf tags, and to ask shop assistants for advice. On the other hand, men prefer to learn about wine by reading wine books or report (Atkin *et al.*, 2007). Barber *et al.* (2006) on American wine consumers demonstrate that front label elements are more relevant to women, while the back label is found more confusing, hard to read, and with excessive information. Sharon, Cohen, & Forbes (2010) showed that during the wine decision-making, women give more attention to the price comparatively to men. Women drink less than men but tend to purchase higher priced wines, as a risk-reduction strategy (Bruwer *et al.*, 2011).

Regarding distribution channels, women prefer to buy in supermarkets and national or international wineries; while men had stronger preference for small wineries or online platforms (Atkin *et al.*, 2007). The research by Santos & Ribeiro (2012) showed that Portuguese online wine consumers are mainly composed by men, well-educated, high-income who purchase wine

online less than once a month. The gender has been introduced in the study of consumer behaviour as a strategy to help product designers and winemakers to customise their products for specific groups (Bruwer & McCutcheon, 2017)

Age

In the literature, several studies have analysed the wine consumption behaviour of older consumers. Only more recently the young generation, also called Generation Y or Millennial generation, has gained interest for wine (Agnoli, Begalli, & Capitello, 2011; Capitello, Agnoli, & Begalli, 2015; Hristo & Ales, 2014). Generally, consumers drink wine because of sensory pleasure but younger drinkers are also motivated for reasons associated to cultural identity (Bruwer *et al.*, 2011). The lack of knowledge about wine and wine's multiple features can confuse young consumers during decision-making process (Agnoli *et al.*, 2011). Chironi & Ingrassia (2014) demonstrated the effect of subjective and emotional involvement of young wine consumers in consumption behaviour. These authors showed that the younger generation consumes wine at particular events, privileging consumption in wine or lounge bars. On the other hand, previous experience is the information that young consumers consider more often when choosing wine (Hristo & Ales, 2014). Natalia *et al.* (2016) showed that young wine consumers associate champagne and sparkling wine with relationships as a ritual, symbolism, and myth. Thus, most of the time this consumer segment asks the parents or friends with better knowledge of wine to buy the wine for them (Lai, 2019).

Knowledge

Knowledge is defined as the measure of how much an individual understands about wine as a product (King, Johnson, Bastian, Osidacz, & Leigh, 2012). In the field of psychology and sensorial science several studies highlight the role of knowledge in information processing, evaluation and quality of consumer choice (Ellis & Thompson, 2018; Gustafson, 2015; Marques & Guia, 2018). A number of studies report that there are differences in quality perception of wine between consumers with different degree of wine knowledge (Hodgson, 2008; Hopfer & Heymann, 2014). The literature identifies two types of wine knowledge measures. The first measure, *objective wine knowledge* assesses how much familiarity an individual has with wine, applying a set of questions or tests (Forbes, Cohen, & Dean, 2008; Frøst & Noble, 2002). Generally, it has been associated with the probability of searching for new information prior to a decision (Johnson & Russo, 1984), however Barber (2008) show that objectively knowledgeable consumers have less need to seek information relying more on

their own knowledge. *Subjective wine knowledge* derives from an individual's perception of how much he/she knows about wine (Flynn & Goldsmith, 1999; Raju, Lonial, & Mangold, 1995) and it is considered a determinant of purchasing behaviour. Subjective knowledge can be measured by asking the participant how much they think they know about a topic or using the nine-item scale developed by Flynn & Goldsmith (1999) commonly applied in wine-related research (Barber, 2008; Johnson & Bastian, 2007). Subjective knowledge has been related to important attributes when consumers make a decision, such as prestige of a wine region of origin (Perrouy *et al.*, 2006; Viot, 2012). Barber, Dodd, & Ghiselli (2008) demonstrated that subjective knowledge is more closely related to past wine experience and wine consumption than to actual wine knowledge. Also, these authors reported a subjective wine knowledge significantly higher amongst Generation X (born between 1965 and 1979) participants and amongst men.

Previous literature has shown a high correlation between the two types of knowledge (Johnson & Bastian, 2007). Ellis & Caruana (2018) showed a positive relationship identifying four groups of consumers: neophytes, snobs, modest and experts. Drinking experience, education, memory and degree of involvement in the category may influence the level of wine knowledge. According to the literature, highly knowledgeable consumers attend more on the intrinsic sensory proprieties of wine while low-knowledge consumers focus on extrinsic cues to rate wine quality (see for example, Johnson & Bastian, 2007; King *et al.*, 2012). Also, wine experts tend to buy at wine stores or directly from producers and they are willingness to pay more for a wine bottle (Lee *et al.*, 2018; Viot, 2012). In sum, understanding how knowledge influences wine buying and consumption has been an area of especial interest for wine marketers. Wine knowledge has been studied in relation to a variety of consumer' behaviours. For instance, extrinsic and intrinsic cues that influence wine choice (Bruwer & Buller, 2012; Viot, 2012); assessment of tasting (Rinaldo, Duhan, Trela, Dodd, & Velikova, 2014); exploratory purchasing behaviour (Vigar-Ellis, Pitt, & Caruana, 2015b); wine-food pairing (Koone, Harrington, Gozzi, & McCarthy, 2014); type of retailer to buy wine (Beverland, 2003); and organic wine purchase intentions (Kim & Bonn, 2015).

1.4. Research approach

New patterns of wine consumers' behaviour have emerged over time, leading to increased product differentiation and increased competition among producers. New products were

developed to improve saliency of features of the wine product (flavour, taste, appearance environment impact, among others), through generic information, brands, and different kinds of labels. In this context, it is important to understand how consumers value different products on the basis of the intrinsic and/or extrinsic information available. For this, the issue of inter-individual heterogeneity must be investigated combined with the effect of information to ensure an efficient research development (Combris *et al.*, 2009). Many different methods can be applied to measure the value of specific product characteristics to consumers. The literature shows the involvement of several disciplines in the study of wine consumer behaviour, such as: sensory science, psychology, sociology, economics and marketing (Combris *et al.*, 2009). Researchers increasingly use both qualitative and quantitative methods in this field of study (Barbou & Morgan, 2017). Focus groups, hedonic tests, conjoint analysis, contingent valuation, and surveys are widely used by researchers to study wine consumer behaviour (Combris *et al.*, 2009; Jervis & Drake, 2014; Oczkowski & Doucouliagos, 2015). Focus groups have been designated as a “carefully planned discussion designed to obtain perceptions on a defined area of interest in a permissible, non-threatening environment” (Morgan & Krueger, 1993). Focus groups have a wide range of applications. They are currently a tool for exploratory, explanatory or evaluative research. The information obtained may be applied to identify new issues, to consolidate research hypotheses, or to provide background information about a specific topic (Hennink, 2007). This approach is also suitable for introduction of projective techniques as stimulus material (Barbou & Morgan, 2017). The goal of projective techniques is to get participants to project their personality, subjective beliefs, and self-concepts for external ambiguous or unstructured stimuli, in order to give them structure and meaning (Denzin, 1978). Construction, completion, association, tasting, and choice ordering have been described as the five main categories of projective techniques applied in consumer behaviour research. Word association and tasting are the most commonly used in agri-food research (Charters & Pettigrew, 2006; Pettigrew & Charters, 2008; Silva, Figueiredo, Hogg, & Sottomayor, 2014; Silva *et al.*, 2016).

On the other hand, hedonic scores method can be applied to investigate the influence of cues in consumer evaluations and expectations for a number of food products, such as wine (Fornerino & Hauteville, 2010). This method allows the measurement of the discrepancies that can be observed in terms of expectations, consumer satisfaction, and objective quality derived from extrinsic cues such as brand or region of origin (D’Hauteville, Fornerino, & Perrouty, 2007; Kokthi & Kruja, 2017; Stefani, Romano, & Cavicchi, 2006). In this context, assessing the impact of sensory and label information can be performed under standardized conditions in

laboratory or in the field and in-store research under more natural but less controlled conditions. Participants are asked to rank products after and before tasting and analysis of product label (Combris *et al.*, 2009)). Most of the time, consumers feel gratified to be asked for their preference and they make their best to rank products as they are asked to. However, the hypothetical approach may lead to some problems from loose to deliberately manipulated answers (Combris *et al.*, 2009; Lange, Martin, Chabanet, Combris, & Issanchou, 2002). Thus, a non-hypothetical approach was developed to overcome these problems (Lecocq, Magnac, Pichery, & Visser, 2004). Under this approach, participants are given incentives to assess and reveal their preferences as accurately and truthfully as possible. Commonly, these methods are called “incentive compatible” where experimental auctions have been increasingly used in the study of consumer behaviour (Lecocq *et al.*, 2004; Lusk & Shogren, 2007). A number large of research applied sensory and economic techniques (i.e. experimental auction) to understand food choice (Amato, Ballco, López-Galán, De Magistris, & Verneau, 2017; Gustafson, 2015; Noussair, Robin, & Ruffieux, 2004; Pomarici, Asioli, Vecchio, & Næs, 2018; Stefani *et al.*, 2006; Vecchio *et al.*, 2019). Specifically, researchers use combined protocols to measure wine consumers’ preferences in terms of willingness to pay.

1.5. Conclusion

Daily, consumers are faced with the need to make buying decisions, and the wine market is no exception. Consumer behaviour comprise the understanding of decisions (what, whether, why, when, how, where, how mind, and how often) about buying, use, and disposal of goods, as well as the consumer’s mental, emotional, and behaviour responses involved in these activities. Several situations can influence the consumer behaviour: new situations involving a great deal of risk where consumers seek and analyse information prior to making a choice; or a situation of decision automated and made by habits. Furthermore, consumer behaviour can also be affected by the consumer’s culture or norms, ideas, and expected behaviours of a particular group. Typically, decision-making process involves a number of steps: (1) problem recognition, (2) information search; (3) judgment and decision making; (4) evaluation of level of satisfaction with the decision. In this context, research in the field of behaviour economics show that decision-making is not strictly rational; the decisions can be influenced by the way the issue is posed, that is, whether it is put in terms of gains or losses. Thus, it is verified that heuristics are applied to simplify the decision-making task.

Wine constitutes a true Portuguese cultural heritage. However, the wine choice decision-making process is considered by most consumers as complicated and with significant risk. Wine is seen as an experience good where its quality, especially its sensory quality, can only be evaluated by the consumers during consumption. Particularly, consumers develop many market beliefs over time. In wine market, one of the most common beliefs is that price is positively related to quality. Also, other heuristics rely on well-known brand, region of origin and labelling as signals of wine quality. Marketers investigate consumer behaviour to gain insights that will lead to more effective marketing strategies and tactics. In this context, researchers apply qualitative and quantitative approaches to identify important variables relevant to consumer behaviour. Several methods can be employed to collect primary data: questionnaire, experimentation, projective techniques, focus group. The data analysis allows to investigate consumer needs and wants, deliver products that satisfy those needs and wants, and ensure that the customer remains satisfied over time. These results are especially important in the highly competitive and differentiated market of Portuguese wines.

1.6. Aim and research hypotheses

This thesis compiles studies that combine a qualitative and quantitative approach to explore and/or to investigate behavioural differences, motivations, and perception of Portuguese wine consumers. The overall aim is to contribute to a better understanding of how the different wine attributes influence the wine buying decision-making process, empathising the role of the origin region. The understanding of the extrinsic determinants of wine choice is a key factor for the wine industry, once in a highly competitive market, success can depend on effective labelling and packaging. Furthermore, in line of Aldecua, Vaillant, Lafuente, & Gómez (2017), this study intends to contribute to stimulate entrepreneurial innovation within the wine industry at a regional level through better customer product orientation. Moreover, by contributing to the entrepreneurial innovation of wine producing regions, the thesis provides guidance for the design of an innovative environment within the increasingly competitive wine industry.

The main research question is: How the different cues influence the Portuguese wine consumer's decision-making process?

For this, seven investigation hypotheses were formulated:

- The gender of consumers influences wine labelling cues seeking;
- The level of self-reported wine knowledge influences wine choice and evaluation;
- The information about the region of origin affects the perceived quality of wine;
- The consumers' wine knowledge (objective and subjective) influences the perceived quality of a region of origin;
- The region of origin influences the hedonic score of wine;
- The region of origin determines willingness to pay for wine;
- The sociodemographic characteristics are predictors of the willingness to pay for wine.

1.7. Thesis outline

After the present introduction, in chapter 2, we present a qualitative study on the influence of gender on wine choice, specifically on the question of whether women and men seek the same cues in wine labelling. Next, we investigate the role of self-reported wine knowledge on individual attitudes towards wine choice and hedonic evaluation (chapter 3). In chapter 4, we evaluate experimentally the strength of the region on perceived quality comparing three Portuguese wine regions (Douro, Dão and Alentejo). To this end, we apply an experimental design to elicit consumer preferences through a liking score under three information conditions. The level of wine knowledge is also assessed and an assimilation-contrast approach is used. In chapter 5, we combine sensory and experimental economic techniques to determine the effect of region of origin on wine consumer's willingness to pay (WTP), comparing the three Portuguese wine regions under study. Finally, we discuss the main results and develop some methodological considerations, practical implications, and orientations for future research (Chapter 6). Table 1.7 presents an overview of the research developed.

Table 1.7- Overview of the researches conducted in this thesis

| | Aim (s) Of study) | Method | Participants |
|-----|--|--|--|
| | IS THERE A GENDER EFFECT ON WINE CHOICE IN PORTUGAL? – A QUALITATIVE APPROACH | | |
| C.2 | <ul style="list-style-type: none"> • To analyse the existence and influence of gender effects on wine choice, specifically whether women and men seek the same cues in wine labelling. | <ul style="list-style-type: none"> • Focus groups • Two projective techniques • Short questionnaire | <ul style="list-style-type: none"> • 45 regular wine consumers |
| | <i>International Journal of Wine Business Research, 31 (4) (2019), 618-639</i> | | |
| | HOW DOES SELF-REPORTED KNOWLEDGE INFLUENCE THE AFFECT OF EXTRINSIC CUES ON WINE CHOICE? A QUALITATIVE APPROACH | | |
| C.3 | <ul style="list-style-type: none"> • To contribute to an in-depth understanding of the role that self-reported wine knowledge plays on individual attitudes and behaviour towards wine choice and evaluation of wine; | <ul style="list-style-type: none"> • Focus groups • Two projective techniques • Short questionnaire | <ul style="list-style-type: none"> • 45 regular wine consumers |
| | <i>Submitted for publication</i> | | |
| | REGION OF ORIGIN AND PERCEIVED QUALITY OF WINE: AN ASSIMILATION – CONTRAST APPROACH | | |
| C.4 | <ul style="list-style-type: none"> • To evaluate, in an experimental context, the role of the wine region on the perceived quality of the product itself. • To investigate the impact of the consumers' wine knowledge level on the perceived quality and experienced quality of wine. | <ul style="list-style-type: none"> • Field experiment: Sensory analysis • Questionnaire | <ul style="list-style-type: none"> • 136 wine regular consumers |
| | <i>In preparation for submission</i> | | |
| | EFFECT OF REGION OF ORIGIN ON WILLINGNESS TO PAY FOR WINE: AN EXPERIMENTAL APPROACH | | |
| C.5 | <ul style="list-style-type: none"> • To examine the effect of region of origin on wine consumers' preferences and willingness to pay (WTP) based on economic experiments conducted in different Portuguese wine regions | <ul style="list-style-type: none"> • Field experiment: economic experiments combined with sensory analysis • Questionnaire | <ul style="list-style-type: none"> • 168 wine regular consumers |
| | <i>In preparation for submission</i> | | |

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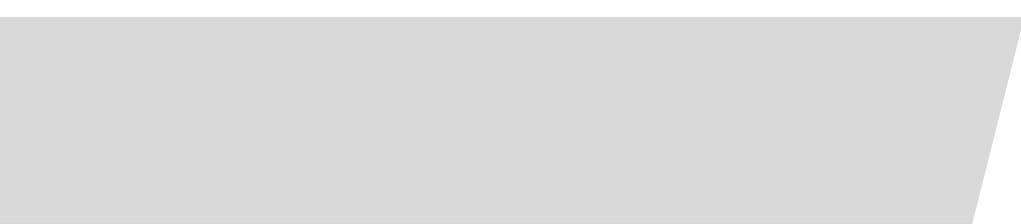
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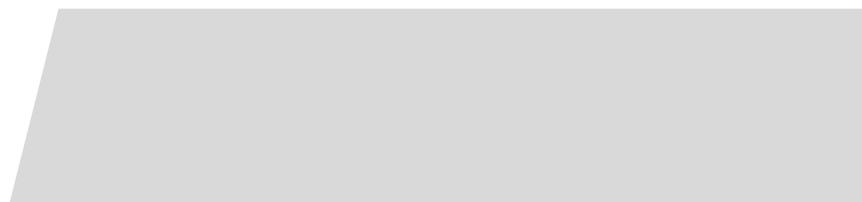
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02.

Chapter 2



Chapter 2. IS THERE A GENDER EFFECT ON WINE CHOICE IN PORTUGAL? – A QUALITATIVE APPROACH

Carla Ferreira | Lina Lourenço-Gomes | Lúcia M. Costa Pinto |
Ana Patrícia Silva

Purpose- The purpose of this article is to analyse the existence and influence of gender effects on wine choice, specifically whether women and men seek the same cues in wine labelling.

Design/methodology/approach- Five focus groups, involving 45 regular wine consumers (22 women and 23 men) from four Portuguese wine regions of origin, were conducted. Sessions included two projective techniques. In order to gather more information, participants were asked to fill a short questionnaire, relating purchasing and consumption habits, knowledge, and socioeconomic characteristics. Qualitative data was transcribed *verbatim* and content analysis was used.

Findings - Women frequently associate wine to the context of consumption; while men frequently associate wine to convivial and sensorial pleasure. Region of origin and prior knowledge experience seem to be the two main reasons for men to choose a wine; while, women seem to rely more on wine brand and previous experience. Front label information (region of origin, awards, and region illustration) seems to be more important for women, while the back label descriptors (grape variety, world heritage site, wine history) are more relevant for men. The typography (font size) and information type were identified as negative aspects of the back label.

Practical implications- Understanding how men and women look for information on a wine bottle can help marketers communicate with specific market segments. This article provides insights to design marketing campaigns regarding product customization at the level of label information and design.

Originality/value- The present research contributes to current literature on wine consumer behaviour, exploring behavioural differences, perceptions and motivations by gender. In particular, the relevance of wine cues for choice decision is explored. The evidence of focus groups combined with projective techniques is complemented with data collected through a questionnaire.

Keywords Consumer behaviour, wine cues, wine market segmentation, focus group, marketing wine, gender.

Introduction

Portugal is typically perceived as a country of wine. According to World Health Organization (WHO, 2018), in 2016, Portugal was the second top wine consuming country among European countries. Regarding consumption patterns by gender, in Portugal, as in the majority of European countries, men overcome women by 15 litres of pure alcohol per capita. In 2016 men consumed 20,5 litres of pure alcohol per capita and women consumed 5,1 litres.

Increasing competition in the wine industry has lead producers and marketers to face the challenge of product differentiation. Over the years wine has been identified as a symbol of elegance and distinction, being considered, in some circumstances, a luxury good. Wine is an experience good, in the sense that the full assessment of the quality of the good requires its experimentation (consumption). Thus, much of the differentiation needs to be conveyed to consumers through labelling, packaging and design. Several studies show the impact of social, psychological and cultural factors in explaining market behaviour (e.g. Atkin, Nowak, Rosanna, 2007; Celhay & Remaud, 2018; Charters & Pettigrew, 2006; Sáenz-Navajas, Campo, Sutan, Ballester, & Valentin, 2013). Demographic factors emerge as important criteria for consumer segmentation. Among these factors, gender has been the segmentation practice most frequently applied by retailers (Atkin *et al.*, 2007; Barber, Almanza, & Donovan, 2006; Bruwer, Saliba, & Miller, 2011; Bruwer & McCutcheon, 2017; Forbes, 2012; Thach, 2012). According to the literature, men tend to follow a more heuristic information search process simplifying the decision process, especially in the case of wine. On the other hand, women perceive higher risk associated with choosing a particular wine over another and, consequently, search for more information, being more sensitive to details (Barber, Dodd, & Kolyesnikova, 2009; Marques & Guia, 2018). Concerning distribution channels, men tend to search quicker and more effectively, and to use online channels more frequently than women (Lipowski & Angowski, 2016; Santos & Ribeiro, 2012). In sum, men and women look for different external cues and information during a wine choice situation. The argument proposed in this paper, based on the results obtained, is that, understanding the relationship between gender and the use of different wine extrinsic quality cues can help product designers and winemakers to customise a product by exploring market segmentation. This strategy would allow stakeholders to apply a personalised message for a particular recipient, taking into consideration the needs and interests of a particular target group.

Literature Review

Extrinsic and Intrinsic wine cues

Product attributes are important factors to understand the preferences and attitudes of different consumer groups (Atkin & Johnson, 2010). This knowledge is especially important for marketing decisions regarding products such as wine, commonly accepted as an extremely differentiated product characterized by various extrinsic and intrinsic attributes (Lockshin & Hall, 2003). Being an experience good, it is likely that consumers rely upon extrinsic cues as decision heuristics to identify the quality of the wine and inform their choice (Charters & Pettigrew, 2006). Literature defines extrinsic cues for consumers as the price, brand, packaging, labels, shelf location, region of origin and awards (Casini, Corsi, & Goodman *et al.*, 2009; Sáenz-Navajas *et al.*, 2013). As the taste and the aroma are not available at the moment of choice, consumers are strained to rely upon the extrinsic information provided by the bottle (Pettigrew & Charters, 2008). Bruwer & Wood (2005) argue that consumers through their previous experience create confidence in the region of origin and wine brand. Boncinelli, Dominici, Gerini, & Marone, (2019) suggest that consumers have different choice behaviour when purchasing a bottle of wine for themselves than when purchasing wine as a gift. The authors' results show that in the gift-giving situation the Geographical Indication does not affect consumers' wine choice, however, it is an important attribute for personal consumption. The intrinsic cues for consumers are directly linked to the sensory quality of the wine, such as, alcohol content, grape variety, colour, and sensory profile description (Charters & Pettigrew, 2006). In certain wine consumption occasions, the decision-making process involves a risk-aversion strategy. For Mitchell and Greatedex (1988) the wine choice is associated to financial, social, and physical risk. Most commonly, consumers seek information on wine brands that symbolise consistent quality and are included on their "safe brands"; recommendation of relatives; own knowledge about the wine; and price and labelling are used as quality indicators. Several studies show that price, brand, region of origin, and labelling are the most cited extrinsic cues influencing product's quality perception (Charters & Pettigrew, 2006; Lockshin & Corsi, 2012; Lockshin & Hall, 2003). More recently, an interest on sustainable production methods has arisen among wineries and researchers, especially with respect to the study of factors driving sustainable choice and the positioning of sustainable wines in the market (Sogari, Mora, Menozzi, 2016). However, this characteristic cannot be ascertained before consumption, which hinders the

communication with the consumer. Thus, marketers may use eco-labelling to differentiate the product and influence the decision (Mueller & Herve, 2010; Sogari *et al.*, 2016).

The relevance of each extrinsic cue might vary across consumers in a systematic or random order. Gender is referred in several studies (Atkin *et al.*, 2007; Barber *et al.*, 2006; Batt & Dean, 2000; Sogari, Corbo, Macconi, Menozzi, Mora, 2015, and Pomanici and Vecchio, 2014) as a systematic determinant of the relative importance of extrinsic cues for wine choice decisions.

Gender as a behavioural factor

The influence of gender in the identification of market segments is well established in the literature. Several studies suggest gender as the first wine market segmentation vector (Atkin *et al.*, 2007; Bruwer & Li, 2007). Search for information, confidence, wine price, response to advertisements, health effects, perception of sensory issues, distribution channels and sustainable production methods (eco-labelling) affect differently male and female consumers' behaviour towards wine (Bruwer *et al.*, 2011; Santos and Ribeiro, 2012; Sogari *et al.*, 2016; Thach, 2012). According to Barber (2009) women spend more time researching about wine than men, who are more confident in choosing a wine. Women tend to adopt a comprehensive information seeking-strategy. This study also suggests that wine brand is a more important attribute for women than for men. Atkin *et al.* (2007) show that women are more loyal to brand and tend to repeat the choice of their preferred wine brands more often. In the same line, some studies have found that the response to advertisement is different across gender. Le Bel (2005) reports that women are more sensitive to information about sensory qualities of wine, whereas men are more sensitive to unusual elements. The research by Barber *et al.* (2006) on American wine consumers shows that front label elements are more relevant to women, while the back label is found more confusing, hard to read, and with excessive information. There is evidence that women value information on wine and food combination tips, typically included in the back label (Barber *et al.*, 2006; Thomas and Pickering, 2003). Regarding the type of wine, gender differences were also observed: on average, red wine is preferred by men while women prefer white and sparkling wine (Pettigrew, 2003). Bruwer *et al.* (2011) found that women and men have different sensory preferences and wine consumption behaviour. Women drink less wine than men but tend to buy higher priced wines, as a risk-reduction strategy; they prefer a sweeter wine style where fruit tastes and aromas are the most important; while men favour the aged characters of wine. Santos &

Ribeiro (2012) studied the main characteristics, buying habits, motivation and overall satisfaction of Portuguese online wine consumers: the online consumer segment is mainly composed of men, well-educated, high-income who buy wine online often less than once a month. A wider selection of wines, larger convenience, availability, and price are the main motivations to buy wine online. As decision factors, this consumer segment identified the price, the origin/brand, their own experience, and the recommendation of the online shop. On the other hand, Atkin *et al.* (2007) showed that women preferred to buy in supermarkets and national or international wineries, being more apt to seek information from store personnel, a server, sommelier, labels and shelf tags. Contrariwise, men had stronger preference for small wineries and online platforms. Men demonstrated a higher tendency to read books about wine and searching for information away from the point of purchase. The research by Pomarici & Vecchio (2014) about the variables that influence sustainable wine consumption, suggests that being a woman significantly increases the probability of buying sustainable wines, constituting an important predictor of consumers' willingness to buy a wine bottle with the Carbon neutral label.

According to Bruwer & McCutcheon (2017), gender has been introduced in the analysis of consumer behaviour as a strategy to help product designers and winemakers to customise their products for specific groups. In sum, the literature shows that gender influences information processing and decision-making.

Wine marketing and wine labelling

Marketing theory proposes that a product is defined as a set of benefits that satisfy consumers' needs (Spawton, 1991). In the case of experience goods, such as wine, extrinsic cues are the main vehicle of conveying information. One of the most relevant extrinsic cue is the label, whose design is a critical tool for marketers to communicate about their products; wine producers try to create unique and compelling labels to distinguish their products from their competitors (Barber *et al.*, 2006). Colour, shape, position, and information contribute to establish a brand image (Lockshin & Hall, 2003). Conventionally, the legally required information is found on the front label, such as brand, winery's name, region of origin, vintage year, and alcohol content (Gluckman, 1990; Mueller, Lockshin, Saltman, & Blanford, 2010). The back label, on the other hand, contains additional information such as winemaker's notes and name, sensory characteristics and suggested accompanying meals. Many studies have explored the influence of back label statements on perceived quality (Thomas & Pickering, 2005,

Mueller *et al.*, 2010). According to Lick, König, Kpessa, & Buller (2017), the relevance of the colour of the label depends on personal characteristics. Semiotic studies demonstrate important associations between a label's visual attributes and consumers' perception. Consequently, label design should conform to the style of the bottle, so that the final product is in agreement with consumer needs and preferences. Among the wine labelling features there is large field of literature addressing consumer perception of both organic wine and eco-friendly labelling, and the inclusion of logos and symbols as tools to inform consumers about these characteristics. Sogari *et al.* (2015) concluded that environmental and quality beliefs about sustainable wine influence consumers' attitudes towards sustainable-labelled wines, and that young and female consumers seem to be more concerned with sustainability aspects than the counterparts.

Aims of the research

Although factors influencing wine consumers' behaviour have been identified in the literature, there is a lack of scientific work regarding how consumers' socio-demographic characteristics influence wine consumers' choice, in particular in Portugal. Madureira & Nunes (2013) applied a qualitative approach to identify the relevance of wine attributes for Portuguese consumers, but did not examine the influence of gender on the relevance of each attribute in the choice decision process. The main objective of the present study is to fill in the gap identified in the literature by applying an exploratory research approach to investigate the more complex aspects about the impact of gender on wine choice, evaluating whether Portuguese women and men seek the same cues in wine labelling. The paper thus aims to contribute to deepen the knowledge of wine markets, helping marketers to communicate with specific segments. It constitutes a starting point for tailoring marketing strategies aimed at specific market segments, with a particular emphasis on the role of label information and design. The research contributes to current knowledge regarding the impact of gender on wine choice behaviour, providing new insights for the international debate on the issue.

Research design

The exploratory study of the relevance of extrinsic cues on consumers' choice is often addressed using qualitative research methods. Within qualitative methods, focus groups are more suitable to understand perceptions, behaviours, and beliefs where the divergence or convergence between perspectives and the social interaction are important factors. In the specific case of wine, the decision-making process has a strong social connection, which is associated with the consumption act itself.

Focus groups technique is applied to develop a deeper understanding of subjects' preferences regarding a specific topic. It brings together a group of participants (6-10 individuals) and a moderator, to a structured debate about a specific topic (Morgan, 1997). This method has been applied in several studies regarding consumer behaviour and food choice (Neuninger, Mather, & Duncan, 2017; Silva *et al.*, 2015). The present paper applies focus groups combined with two projective techniques to understand the relationships between gender and extrinsic cues for wine choice decision. The use of these techniques in consumer marketing and behavioural studies helps to overcome communication difficulties and to explore aspects of consumer experience that would otherwise be more difficult to analyse (Barbour, 2007; Charters & Pettigrew, 2006; Pettigrew and Charters, 2008; Jervis and Drake, 2014; Velikova *et al.*, 2016). In addition to the data collected with the focus groups, a short questionnaire was also applied. The questionnaire served as triangulation method and as a strategy to increase credibility by testing the convergence of information from different sources (Bengtsson, 2016; Chambers, Lobb, Butler, & Traill, 2008).

Questionnaire

After the focus group discussion, participants were invited to fill out a short questionnaire. The first part includes questions about wine consumption habits and the second part surveys purchasing habits. An open-ended question about the maximum willingness to pay for a wine bottle was also included. All the remaining questions were closed-form. Additional questions on demographics were also incorporated.

Focus group structure and procedures

Literature suggests that a sample of at least 30 participants is desirable for qualitative studies (Barbour & Morgan, 2017; Bengtsson, 2016). The sample used in this

study comprises 45 participants (22 females and 23 males), who were regular consumers of red wine (31% women and 70% men stated to drink red wine several times per month).

The inclusion criteria were having 35 or more years old, be a Portuguese native speaker, have a good general state of health (self-reported), have experience in choosing a wine bottle and to be a regular¹ still wine consumer. According to the literature, this is the group of consumers that best responds to the objective of this research. Unlike the younger generations, older consumers tend to prefer red wine, are more experienced in choosing a bottle of wine and privilege the brand and the quality of the product (Bruwer, Li, & Reid et al., 2002; Wolf, Carpenter, & Qenani-petrela, 2005). Exclusion criteria were pregnant or lactating women, having some kind of allergy to wine, and being a wine industry professional. When possible, each focus group was stratified according gender.

Five focus groups were conducted in the facilities of five universities located in different wine regions, selected applying the *within-method triangulation* (Bengtsson, 2016; Massey, 2011). Table 2. 1 presents general description of the participants and sessions.

Table 2. 1- General characterization of the participants

| | Total (n=45) | Gender | |
|--------------------------|-----------------|------------------|----------------|
| | | Female (n=22) | Male (n=23) |
| Wine region: City | | | |
| Vinho Verde : Braga | 9 (20%) | 4 (18%) | 5 (22%) |
| Bairrada: Coimbra A | 8 (18%) | 2 (9%) | 6 (26%) |
| Douro: Vila Real | 9 (20%) | 5 (23%) | 4 (17%) |
| Lisboa: Leiria | 9 (20%) | 4 (18%) | 5 (22%) |
| Bairrada: Coimbra B | 10 (22%) | 7 (32%) | 3 (13%) |
| Age | | | |
| 35-52 | 35 (78%) | 18 (82%) | 17 (74%) |
| 53-68 | 10 (22 %) | 4 (18%) | 6 (26%) |

Focus groups discussions were moderated by two of the authors and the sessions were video-audio recorded. All participants signed an informed consent form and received a non-monetary incentive for their participation. A pilot focus group was conducted to test the questionnaire and the focus group protocol. Considering these results and following the guidelines suggested by Barbour & Morgan (2017) and Morgan (1997), a guide was developed (see Table 2.2). Word association technique, the most commonly used technique in agro-food research, consists in asking respondents to say the first words they associate with wine. According to the literature these words

¹ Regular consumer frequently drink wine- at least two times per week (Madureira and Nunes, 2013).

correspond to the most important determinants of consumers' choice (Vidal, Ares, & Giménez, 2013). Wine tasting, on the other hand, intends to approximate the focus group situation to the occasion where most frequently consumers taste wine, allowing an improved view of consumers' behaviour (Pettigrew & Charters, 2008).

Table 2.2- Focus group interview structure

| Stage | Main question and prompts |
|---------------------|---|
| 1. Introduction | Welcome and introduction to the study |
| 2. Word association | Individual exercise: What are the main words you associate with wine? |
| 3. Tasting session | Stimuli: five wines to taste Participants were encouraged to choose a wine to taste. |
| 4. Discussion | Why did you choose this wine? Do you see the back label? What type of information do you search? What kind of information is most important? Do you use digital tools? What kind of information do you look for? Where and when do you consume wine? |
| 5. Summary | Summary of the session |
| 6. Questionnaire | - |

The Table 2.3 shows the label descriptors of each wine presented. The sensory profile was not under evaluation. Water and snacks were also provided.

Table 2.3 -Wine Label information

| Region of Origin | Douro | Península de Setúbal | Dão | Alentejo | Lisboa |
|-------------------------|-------|----------------------|-----|----------|--------|
| Front Label | | | | | |
| Brand | ✓ | ✓ | × | ✓ | × |
| Name | ✓ | ✓ | ✓ | ✓ | ✓ |
| Year | ✓ | ✓ | ✓ | ✓ | ✓ |
| Category | × | × | × | ✓ | ✓ |
| Geographical indicators | ✓ | ✓ | ✓ | ✓ | ✓ |
| Region of Origin | ✓ | × | ✓ | ✓ | ✓ |
| Award/Medals | × | × | × | × | ✓ |
| Back Label | | | | | |
| Alcohol content | ✓ | ✓ | ✓ | ✓ | ✓ |
| Food pairing | × | × | × | ✓ | × |
| Sensory profile | × | × | × | ✓ | × |
| History | × | ✓ | × | × | ✓ |
| Winemaker | × | ✓ | × | × | × |
| Grape variety | ✓ | ✓ | ✓ | ✓ | ✓ |
| Environmental | ✓ | × | ✓ | ✓ | ✓ |
| QR code | × | ✓ | × | ✓ | × |

✓ - present information ; × missing information

Data Analysis

Data collected from the focus groups sessions and questionnaire was analysed as described in Table 2.4.

Table 2.4- Topics and sources for data triangulation

| Data Source | Focus group | Questionnaire |
|------------------------|------------------|--|
| Methodology | Content analysis | Descriptive analysis |
| Topics | Stage | Questions |
| Wine conceptualization | Word association | Wine consumption frequency |
| Motivations for choice | Tasting | Wine type consumed Self-knowledge about wine |
| Bottle shape | | |
| Bottle front label | | Level of importance given to several extrinsic cues |
| Bottle back label | Discussion | Self-knowledge about wine Place of purchase of wine |
| Consumption Moment | | Purpose of buying wine Willingness to pay |
| Digital tools | | Place of purchase of wine |

The focus groups were transcribed *verbatim* in Portuguese and imported to *Nvivo qualitative data analysis software* (Version 11) for content analysis. Content analysis is described as a quantitative and/or qualitative method which allows inferences from data in verbal, written and visual form. In general, content analysis is divided in four main phases: the de-contextualization, the re-contextualization, the categorisation, and the compilation (Bengtsson, 2016). Following this procedure, the transcriptions were analysed repeatedly by the authors and coded into categories consistent with approaches applied in prior research (Charters & Pettigrew, 2006; Madureira & Nunes, 2013; Pettigrew & Charters, 2008). Some categories that originated these nodes had been previously defined in the literature, while others emerged during the analysis. After the coding phase, frequencies of concepts were computed, exploring the relation between nodes and between nodes by gender. Following the literature (Silva *et al.*, 2015), it is assumed that the importance that each category has for a participant corresponds to the frequency it appears in his/her speech.

Results and Discussion

Sample statistics

Results suggest that much of information obtained from questionnaire was also elicited during the discussion. The descriptive analysis (Table 2.5) indicate distinct wine consumption habits by gender: 70% of male participants stated to drink wine several times a month and 68% to drink two to three wine glasses per consumption occasion. The majority of women (55%) consume wine occasionally (several times a year) and, on average, only one glass per consumption occasion. This result is in line with statistical data on wine per capita consumption in Portugal (WHO, 2018) and corroborates the findings on wine consumption levels in other wine market studies (Bruwer *et al.*, 2011 and Bruwer & MacCutcheon, 2017). Regarding the place where participants buy wine, 82% of the women opt for the supermarket and only 18% choose wine shops. On the other hand, 52% of male respondents purchase wine in supermarkets, 43,5% buy in wine shops and 4,5% are online wine consumers. These findings are well supported in Santos and Ribeiro (2012) and Forbes (2012). As expected, men reported themselves as medium and good wine connoisseurs, whereas women reported a lower self-knowledge about wine (Marques and Guia, 2018). Male participants describe their self-knowledge about wine as medium (65,2%), good (14,3%) and very good (4,3%). Only 16% of men consider their knowledge as weak, for women that percentage is 51%.

Table 2.5- Consumption and buying wine by gender

| | Relative frequency (%) | |
|-------------------------------------|------------------------|-------|
| | Women | Men |
| Wine type consumed | | |
| Douro | 9,1 | 4,3 |
| Dão | 0,0 | 4,3 |
| Verde wine | 4,5 | 0,0 |
| Península de Setúbal | 0,0 | 4,3 |
| All | 45,5 | 69,9 |
| All, but Verde wine | 9,1 | 0,0 |
| Douro, Alentejo, and Dão | 13,6 | 8,7 |
| All, but Alentejo | 4,5 | 0,0 |
| Douro, Alentejo, and Verde wine | 4,5 | 4,3 |
| Douro and Dão | 9,1 | 4,3 |
| Wine consumption frequency | | |
| Several times a month | 31,8 | 69,8 |
| Once a month | 9,1 | 13,0 |
| Occasionally (several times a year) | 54,5 | 17,4 |
| Once a year | 4,5 | 0,0 |
| Wine consumption/occasion | | |
| 1 wine glass | 45,50 | 13,60 |
| 2 to 3 wine glasses | 36,40 | 68,20 |
| more 3 wine glasses | 18,20 | 18,20 |
| Wine buying frequency | | |
| Several times a month | 9,5 | 30,4 |
| Once a month | 13,6 | 21,7 |
| Occasionally (several times a year) | 59,1 | 43,5 |
| Once a year | 18,2 | 4,3 |
| Purpose of buying wine | | |
| Current consumption | 31,8 | 34,8 |
| Offer | 13,6 | 4,3 |
| Consumption in special occasions | 40,9 | 39,1 |
| All occasions | 13,6 | 21,3 |
| Place of buying wine | | |
| Internet | 0,0 | 4,5 |
| Supermarkets | 81,8 | 52,0 |
| Wine shops | 18,2 | 43,5 |
| Self-knowledge about wine | | |
| Null | 4,5 | 0,0 |
| Weak | 51,0 | 16,0 |
| Medium | 40,9 | 65,2 |
| Good | 4,0 | 14,3 |
| Very good | 0,0 | 4,3 |

Regarding the rank order importance of extrinsic cues on wine choice (Table 2.6) the most important factors for men are the back label information, the grape variety and the region of origin. For women, the most relevant cues are the brand and the sensory profile. Right after, other relevant cues for women are: region of origin, food pairing, price and medals. These results are in line with Bruwer & MacCutcheon (2017) and Kelly *et al.* (2015). The last question was the participants' willingness to pay for a red

wine bottle. On average, women are willing to pay 10 €, whereas men reported a mean willingness to pay of 7,78 €. Goodman and Kruskal's gamma test shows that differences between men and women are statistically significant in the case of back label information, brand, medals/awards, sensory profile; and region of origin. According to Bruwer *et al.* (2011), women drink less wine than men, spend less, but to “compensate” buy more expensive wines. This behaviour may represent a risk- reduction strategy, if women take price as an indicator of quality. These results will be discussed in the analysis of each topic by focus group according to Table 2.4.

Table 2.6 - Importance of several extrinsic cues of wine by gender

| Extrinsic cues | Mean score ^a | | Gamma |
|------------------------|-------------------------|-----|-----------|
| | Women | Men | |
| Alcohol content | 5,0 | 4,4 | -0.089 |
| Back label information | 4,0 | 6,0 | -0.274*** |
| Bottle form | 4,1 | 3,7 | -0.199 |
| Brand | 6,3 | 5,1 | -0.451** |
| Food pairing | 5,4 | 4,0 | -0.073 |
| Front label attractive | 4,5 | 4,4 | -0.071 |
| Grape Variety | 3,8 | 6,0 | 0.252 |
| I read about it | 4,0 | 4,2 | 0.074 |
| Medals/ awards | 5,2 | 4,5 | -0.353*** |
| Price | 5,4 | 4,5 | -0.269 |
| Profile sensory | 6,1 | 4,0 | -0.359*** |
| Region of origin | 5,8 | 6,0 | -0.672* |
| Wine history | 4,8 | 4,4 | -0.243 |

^aOn a scale of one to seven with one equal to *Not at all important* and seven equal to *Extremely important* / *significance 1% ; **significance 5%;
***significance 10%

Focus groups

Content analysis fell on the five topics present in the interview guide. For each topic, several nodes are identified. A summary list of the most relevant nodes for each topic is presented in Table 2.7. First, the general perception on wine was analysed and then each component was examined in more detail.

Table 2.7-Nvivo summary list

| Topic | Category | Unit semantics (concepts) |
|-------------------------|------------------------|--|
| Wine conceptualization | Context of consumption | charm conviviality joy meal relaxation |
| | Features of the wine | alcohol content colour grape variety sensorial pleasure |
| | Wine image | bottle label design price region of origin |
| | Production | vine work |
| Motivations for choice | Previous experience | know not know |
| | Wine image | bottle shape brand name back label front label region of origin |
| Packaging and Labelling | Bottle Shape | <i>bordalesa</i> design <i>borgonha</i> design <i>reno</i> design |
| | Bottle front label | awards brand history name Illustration region illustration region of origin type (red or white) wine name year |
| | Bottle back label | alcohol content food pairing grape variety origin country type (red or white) sensory profile wine history winemaker world Heritage site year |
| Consumption Moment | When | at meal out meal |
| Digital tools | Information sought | price reviews wine history |

Table 2.8 summarizes the differences between men and women regarding: how participants conceptualise the wine; what are the participants' motivations for the first

wine choice in the session; whether they seek different cues in wine labelling for a wide range of wine choice issues; how participants evaluate and read the shape of the bottle; what kind of information the participants look for in the front and back label when buying or consuming; and how innovation and digital tools are seen by participants.

Table 2.8- Perceptions by gender

| Topic | Women participants | Men participants |
|------------------------|--|---|
| Wine conceptualization | Context of consumption (conviviality) | Context of consumption (conviviality) and features of the wine (sensorial pleasure) |
| Motivations for choice | Curiosity in trying new wines | Use of prior knowledge and region of origin |
| Bottle shape | <i>Bordalesa</i> design | <i>Bordalesa</i> design |
| Bottle front label | Emphasis on awards, region of origin, region illustration | Emphasis on region of origin and brand |
| Bottle back label | Focus on grape variety, food pairing, alcohol content, sensory profile | Focus on grape variety, World Heritage Site, alcohol content, winemaker, and wine history |
| Consumption Moment | Emphasis on meal | Emphasis on meal |
| Digital tools | Less important | Comparison of prices and reviews |

Wine conceptualization

The concepts were grouped, according to similar meanings, in four categories: context of consumption, features of wine, wine image, and production. Table 2.9 summarises the concepts, the categories and their relative importance for female and male participants.

Table 2.9- Relative importance of wine concepts by gender²

| What are the first words that come to your mind when you think about wine? | | |
|--|-------------------|-------------------|
| | Concepts | |
| | Men | Women |
| Context of consumption | +++ | +++ |
| | Conviviality (21) | Conviviality (24) |
| | Meal (7) | Meal (7) |
| | Joy (3) | Relaxation (3) |
| | Relaxation (2) | Joy (2) |
| | Charm (1) | Charm (1) |

² Following the first session conducted in Braga, it was decided to apply an indirect approach to consumers' attitudes as a strategy to transcend existing communication barriers. Thus, the word association technique was applied in only four of the five focus groups.

| | | |
|-----------------------------|-------------------------|------------------------|
| Features of the wine | +++ | ++ |
| | Sensorial pleasure (25) | Sensorial pleasure (9) |
| | Alcohol content (4) | Colour (4) |
| | Colour (4) | Alcohol content (2) |
| | Grape variety (1) | |
| Wine image | + | + |
| | Bottle Label (3) | Bottle Label (1) |
| | Region (3) | Region (1) |
| | Design (1) | |
| | Price (1) | |
| Production | + | |
| | Vine (3) | - |
| | Work (1) | |

+ (relative importance) = coded from 1 to 10 times; ++ coded from 11 to 20 ; +++ coded > 21

Participants associate wine mostly with concepts related to the *context of consumption*. This category has a representativeness of 54% of the total concepts found, while the category *production* is the least representative, with only 4 concepts. This finding suggests that wine conceptualization is associated to socialization moments between friends and family, as shown by Silva *et al.* (2015). Women associate wine more frequently to the context of consumption, for example to the convivial moments with friends and family, than men, which associate wine more frequently to both the context of consumption and wine features, such as *sensorial pleasure*. Concepts linked to the image are not representative for either men or women. The category production emerges only in the conceptualization for male participants. In the same line of Thach (2012) men are more concerned with technical aspects whereas women privilege the context of consumption.

Comparing the concepts identified (Table 2.9) with the sample characteristics summarised in Table 2.5, it could be argued that the semantic networks created can be supported by differences in consumption levels between women and men. The findings seem to indicate that the frequency of consumption influence participants' perception of the wine concept. For women the wine is the beginning of a good conversation at dinner/lunch, while for men is synonymous of sensorial pleasure. These results could justify increased attention from retailers and producers, to produce wine styles compatible the needs of female and male consumers.

Motivations for choice

According to Pettigrew & Charters (2008) the application of tasting as a projective technique creates a situation that is closer to a real consumption and product evaluation occasion, improving the understanding of consumer behaviour. Participants were asked to choose a wine to taste from five options (Table 2.3). Douro wine was the most frequently chosen, and some gender differences were observed. Men chose *Douro* wine more frequently, while *Alentejo* wine was only selected by women. *Lisboa* and *Península de Setúbal* wines were chosen mainly by women, whereas *Dão* wine was chosen equally by gender. Although the wine selection was limited, it appears that participants' choice was distinctive of their own wine consumption habits. According to questionnaire data, even though 70% of men and 46% of women participants consume regularly all wine types, only 4% and 9% of the men and women, respectively, frequently consume Douro wine (Table 5). Pettigrew & Charters (2008) also observed this difference between stated and actual preferences in thirty-five wine consumers, however the opportunity for experimenting something unknown, might also explain the observed difference in our case. Application of tasting as a projective technique provides insights into salient external motivations which in turn may help to understand participants choice decisions (Velikova *et al.*, 2016). Participants were invited to share the motivations that led them to choose the wine, which are summarized in Table 2.10.

Table 2.10- Participants' motivations underlying the bottle chosen

| Category and Semantic Unit | Frequency | | Characteristic responses (gender, age, and participant number in parentheses) |
|----------------------------|-----------|-----------|--|
| | Men | Women | |
| Previous experience | 14 | 18 | <i>I chose Península de Setúbal because I knew (F, 45, #P5) Douro. Because I knew. I went for the safe choice (M, 39, #P17)</i> |
| Know | 10 | 7 | |
| Not know | 4 | 11 | |
| Wine image | 14 | 9 | <i>I chose the Douro because it was different from the others, the bottle (M,46,# P7)</i> <i>Because it is Douro and then the brand that is a quality certificate (M,40, P25)</i> <i>Everyone was the name that caught my attention (F,35,# P20)</i> |
| Bottle shape | 1 | 1 | |
| Brand | 1 | 6 | |
| Wine name | 1 | 0 | |
| Front Label | 1 | 0 | |
| Back Label | 1 | 0 | |
| Region of origin | 9 | 2 | |

Two thematic categories were discussed by participants. The first category - *previous experience* - reflects the experience level and knowledge about the theme. That is, if, at the moment of choice, participants opt for a safe choice, previously experienced wine, or prefer to experiment other wines, which were not previously experienced. The second category identifies several attributes influencing product choice- *wine image*. This category was divided in six semantic units: bottle shape, brand, wine name, front label, back label, and region of origin.

Table 2.10 shows the differences across participants' choice behaviour. Women stated that knowing or not knowing the wine and its brand were the most relevant reasons. On the other hand, men indicated safe choice, wine already known, and region of origin as the most relevant attributes for wine selection. Some men justify their choice on their previous knowledge, while women spoke of not knowing and the curiosity about trying new wines. Regarding *wine image*, two important factors were highlighted by participants: brand and region of origin. Women stated that the brand gives them a sense of safety of a good choice. On the contrary, men explained the importance of the origin region on emotional empathy and on different levels of quality among regions. Little importance was given to the remaining factors.

Comparing these findings with results in Table 2.5, an interesting pattern emerges regarding participants' decision-making process. More than half of the women, reported a weak self-knowledge about wine, which may explain the "not know" as the main motivation to choose a wine. Additionally, on average, women give more importance to the extrinsic cues, such as brand and region of origin. These results are in line with factors

highlighted in the thematic category- wine image (Table 2.10). Previous studies reveal that women tend to choose the same brand of their preferred wine, diminishing the associated risk of a bad choice (Barber *et al.*, 2006; Barber, 2009). The difference between stated and actual preference observed, can also be related with their risk-reduction strategy and self-knowledge about wine. According to the literature, consumers' knowledge plays a key role in the decision process (Bishop & Barber, 2012; Marques & Guia, 2018). It is expected that consumers with less knowledge or less confidence in their knowledge need more information to purchase and normally opt for the same wine type and/or brand (Johnson & Bastian, 2007). Atkin *et al.* (2007) reported that women have a greater social pressure regarding a wrong wine purchase and favour risk reduction strategies, especially price, brand, life experience and credible sources such as family and friends. These results seem to indicate that in the wine tasting context, women behaviour tends to be different. In this context without social pressure, women seem to be more willing to try new wines.

In general, men give less importance to extrinsic cues than women, for which the region of origin is the more important cue (Table 2.6). Male participants do not express a specific region of origin for regular consumption (Table 2.5). Barber (2009) reported *knowledge* as a search for internal information where the consumers who believe to be more knowledgeable have lower need to seek for external information. As reported by Atkin and Johnson (2010) and Bruwer & Li (2007) the region of origin is significantly more important for men than for women. In consonance with self-knowledge described by male participants (Table 2.5) and previous literature (Barber *et al.*, 2009; Johnson and Bastian, 2007), it was expected that men would be more open to new experiences than women. Regarding ethnocentric behaviour³, the results seem to show different levels of perception regarding Portuguese wine-producing regions where some male participants prefer wines from their region. Independent of gender, participants' choices seem to indicate differences in the perception of Portuguese wine-producing regions. Elements such as tradition and physical resources can influence participants' perception towards wines produced in a given region (Ribeiro & Santos, 2008). These findings suggest that marketing professionals should consider the region of origin reputation for men and

³ Theoretically, consumer choices can be influenced by ethnocentric orientation as an expression of a predilection for home country products. More ethnocentric consumers may disapprove the choice of foreign wines because they feel that they can undermine the regional economy and even contradict their regional identity. Inversely less ethnocentric consumers evaluate the wine based on its own attributes without considering where it was produced (Bernabéu, Prieto, & Díaz, 2013).

reputation of brand for women in their strategies. The use of tasting as a projective technique suggests the importance of context of consumption to introduce new wines to women. To women, the wine tasting experience seem to have a greater impact in brand loyalty. Bruwer, Coode, Saliba, Herbst *et al.* (2013) demonstrated that winery tasting room experience is significantly correlated to brand attitudes, showing that consumers who have an enjoyable and memorable experience are more likely to purchase the wine again and/ or promote the wine brand.

Packaging and Labelling

The cognitive stimuli used suggested a number of clues on the relevance of various issues to participants' choice behaviour. Among the most important, were the packaging and labelling characteristics:

Front label seems to me to be of inferior quality... The font is inclined so it is...more... badge (F, 59, #P2); For those who have no knowledge of the wine the label being beautiful or ugly matters. The bottle is different but makes it look like a regular wine. The label (...) with some details in gold gives a certain elegance (M, 39, #P17).

Bottle shape

Participants referred to the design of the bottle as an important instrument for product differentiation. In their opinion, the design should be elegant, just like the wine, and provide an expectation of quality. Men associate the design with a particular wine type or region of origin, more often than women. This association can be positive or negative depending on participants' previous experience. Overall, both male and female participants, preferred a *Bordalesa* design in comparison with the *Borgonha* or *Reno* design. This was referred as an important factor when choosing a gift. Examples of the participants' comments on this topic are:

The bottle is different but makes it look like a common wine [Borgonha design] (M,39, #P17); The shape of the bottle. Dão's bottle is a bit chubby for my taste [Borgonha design] (F, 53, #P19); I do not like the style of the bottle. It looks like champagne [Borgonha design] (M, 35, #P27).

Behavioural differences and distinct aesthetic impressions were found between men and women in several studies (Cahill *et al.*, 2001; Cahill, Uncapher, Kilpatrick, Alkire,

& Turner *et al.*, 2004; Killgore, Oki, & Yurgelun-Todd, 2001). Thus, gender-specific effect in the perception of bottle shape are important attributes for choosing a wine bottle. These results suggested a strong preference for *Bordalesa* design. Both women and men rated *Bordalesa* as most attractive indicating a higher quality wine. This preference can be explained by traditional bottle shapes and size typically used for red wines: Bordeaux wine is traditionally marketed in *Bordalesa* design bottle. Men identify a strategy of region of origin differentiation through the shape of the bottle. This result is especially important for producers to highlight the region of origin on a retail shelf.

Bottle front Label

By content analysis many participants associated the design and colour of a bottle to quality cues. Female participants reported a greater number of important elements. Figure 2.1 shows how women and men value the different elements of the front label. The value that each element has for a participant corresponds to the frequency it appears in her/his speech.

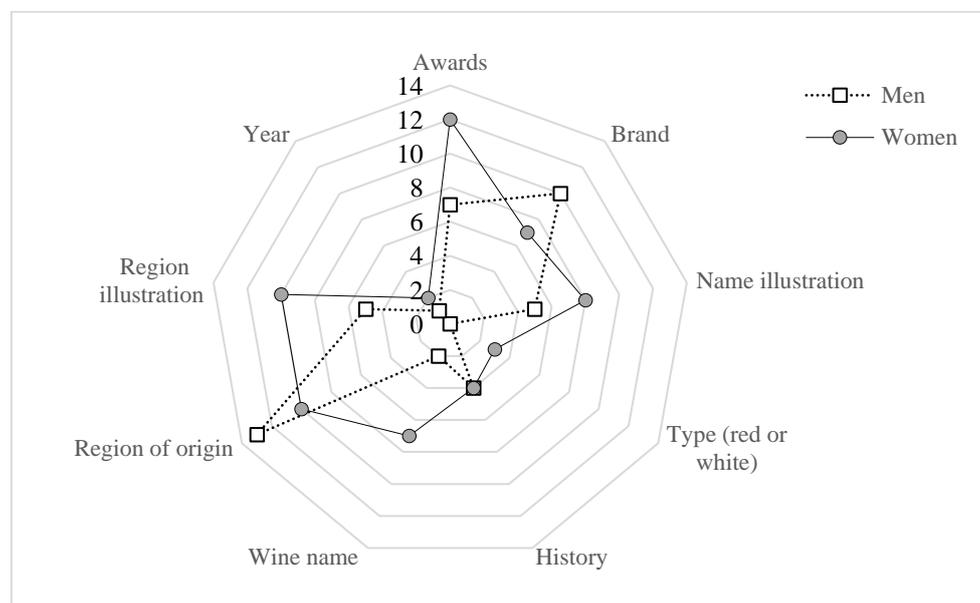


Figure 2.1-Valorization of front label descriptors by gender.

According to Figure 2.1, men and women value different types of information. Awards, region of origin, and illustration of the region of origin were the most important

elements for women, signalling quality.⁴ The region illustration is an information that brings history and confidence to wine. Women reported wine name as a good element to attract consumers and to stay in the memory for future reference. Regarding male participants, region of origin and brand were the most relevant elements of information, namely as it is believed to signal the sensorial quality of wine. In the same line, the descriptive analysis (Table 2.6) showed that female participants give more importance to the attractiveness of the front label than male participants. Women give more attention to extrinsic cues as brand, awards, region of origin, and wine history. Thus, the results of content analysis are aligned with the information from the survey, which cross validates the results. These findings may be justified by gender differences in information processing, demonstrated in studies such as Barber (2009), Chang, Thach, & Olsen (2016), Forbes (2012), and Rappaport, Peters, Downcy, McCann, Huff-Corzine (1993). Women perceive a greater risk and consequently seek more information. On the other hand, men follow a more heuristic and intuitive information processing method. Additionally, studies have shown that women are able to recall illustrations and names more easily (Atkin & Johnson, 2010; Lick, König, Kpossa, & Buller, 2017). These results are consistent with those of Madureira & Nunes (2013), who found that region of origin, brand and awards were the most attractive features of the front label.

The descriptive analysis (Table 2.5) demonstrated that women and men have different buying habits. Men buy wine in supermarkets and wine shops, whereas women clearly privilege supermarkets. Marques & Guia (2017) reported that female and male Portuguese consumers who purchase wine at hypermarkets differ in the way they use the information in decision-making process. Men rely more on knowledge from previous experience, while women search different extrinsic cues and advice from friends and sales personnel. Regarding buying habits and information sought by men and women in front label design, the results seem to suggest that its improvement might increase attractiveness in different distribution channels becoming strategical for producers and marketing professionals.

⁴ The geographical information was provided on the front label of all wine bottles. However, during analysis and discussion of front label information the geographical indicators were not identified as relevant cues in wine choice. This result reinforces the idea that the region of origin is more important than any other geographical indicators (Atkin *et al.*, 2007; Verdonk *et al.*, 2017).

Bottle back Label

In the discussion participants were invited to talk about the back label, in particular, referring to the importance of the information provided. For both female and male participants, the back label provides information on the main wine features, being more important for men. It is interesting to note that while for some men this information is relevant when buying a bottle of wine, others look for this information when consuming the wine. Examples of the participants' comments on this topic are:

Yes [I see] the grape variety information (*M,49 #P1*); *Yes. I look for the characteristics of the wine. (F,53 #P21)*; *Yes. If I do not know the wine I will see the grape varieties (F,41, #P32)*

Overall, participants described back labels as elements with excessive information, difficult to read and not very attractive. In the thematic typography, the font size is reported by participants as one of the greatest problems: if the participants are not able to read the back label information, they may make wrong choices. Following are some illustrative comments:

Lots information little informative (...) always the same information. (Braga, M, 46, #P46); *It has lots of information and the letter is very small (Vila Real, F, 53; #P21)*

These findings are consistent with those of Mueller *et al.* (2010) and Kelley, Hyde, & Bruwer, (2015) who demonstrate that the information on the back label is a communication vehicle between producer and consumer. In the present study, men seem to understand the back label as a source of information on wine characteristics. As in the study of Barber *et al.* (2006), several comments emerged regarding the back label design: unattractive, difficult to read and interpret, too much information. Clearly, producers should consider new designs of back label.

During the discussion on this topic, participants were asked to identify the information they would like to find on the back label for a red wine, using as an example a wine from the Douro Region, world heritage site. Grape variety, food pairing, alcohol content, and wine history were the four information types most often reported by participants. This information seems to be very relevant for participants as cues. Unlike, country of origin, wine type and year seem to be less relevant for the back label. Many participants stated that country of origin is already associated with region. On the other hand, the region of origin was considered by the participants as a relevant information in the front label and not in back label. Men and women value and look for different types of elements in the back label. Figure 2.0.2 shows the differences found by gender where the valorization of information is a direct relation with the frequency it appears in her/his speech.

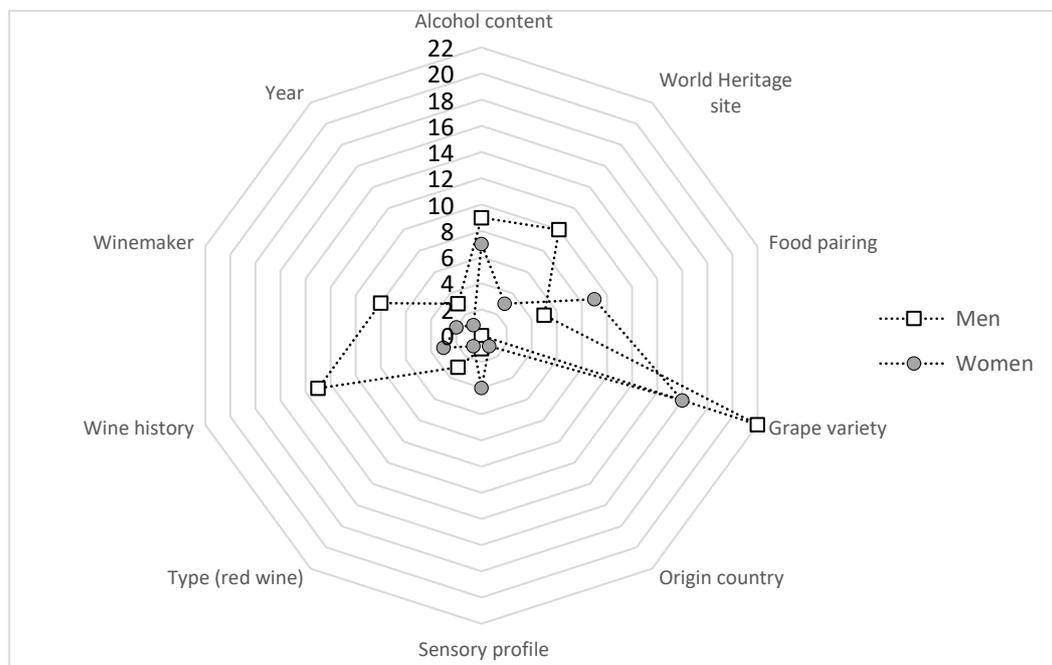


Figure 2.0.2- Valorization of back label descriptors by gender.

According to Figure 2.0.2 and Table 2.6, men seem to value more the information in the back label. Grape variety, wine history, World Heritage Site, alcohol content, and winemaker were the most relevant information for male participants. For them, these descriptions signal wine quality and reduce the risk. Women attribute more relevance to food pairing, grape variety, and alcohol content, in line with the results from the questionnaire. Women argue that it is difficult to identify the value of the winemaker

because of their lack of knowledge. The descriptive analysis showed that 92% of women reported a weak and medium self-knowledge about wine however, they associate grape variety with organoleptic characteristics. Contrary to the opinion of men, female participants value the description of the sensorial profile of wine in the decision making process. As reported in Bruwer *et al.* (2011) there are specific differences in the consumption behaviour and sensory preferences between women and men. For women, fruit tastes and aromas are the most important sensory characteristics. These results are also in line with the descriptive analysis.

Comparing this result with the participants' previous behaviour, there seems to be agreement over the perception of the various cues in wine labelling. Male participants' look for information related to wine production, while female participants search for indicators that provide memory cues. The gender differences may result from differences in knowledge and information retrieved in the decision process. Men tend to follow a more heuristic information process, reinforced by the fact that men feel more self-knowledge, especially in the case of wine. On the contrary, women show higher perceived risk associated with wine purchase, preferring personal sources of information (Bishop and Barber, 2012; Marques & Guia 2018). This result is consistent with previous quantitative studies such as Barber *et al.* (2006), Thomas & Pickering (2005). What is clear from these findings is that there are gender differences for back label descriptions, and thus different back label could be created for the two market segments.

Consumption Moment

According to Table 2.5, 32% of female respondents buy wine for current consumption, and 41% buy wine for special occasions. On the other hand, 35% of men purchase wine for current consumption and 39% for special occasions. Comparatively to men, women participants buy more wine to offer and for special occasions. Regarding the willingness to pay for a bottle of wine, women stated a medium value of 10 €, whereas men self-reported 7,8 €. The consumption moment is mentioned in the literature as an important aspect of consumer choice behaviour (Thach, 2012). During the discussion, all participants stated that wine consumption occurs especially at meals, regardless of the purpose of purchase. This is not surprising since wine consumption in Portugal is a cultural habit deeply linked with meals, which does not happen in other countries (Silva *et al.*, 2017). Specifically, our respondents stated that Douro wine consumption requires a complete meal, with a perfect combination with regional food. These results can be

explained by the link between the sensorial profile of red wine and the moment of consumption. Several authors show that wine sensory profile influences the consumption moment (Bruwer *et al.*, 2011; Bruwer & McCutcheon, 2017). In this context, our results may have strategic implications for wine producer and marketers in the design of red wine promotional campaigns.

Digital Tools

Wine choice in the absence of tasting is often a challenging decision. The emergence of digital tools has been shaping the way consumers see the wine choice process (Higgins, Wolf, & Wolf, 2014). In this topic participants were asked to talk about the digital tools used to choose a wine. Most participants, especially women, said they do not use them. A small number of male participants described digital tools as an excellent information source to help their choice. The reviews and the price are the advice most cited by this group of participants. Table 2.5 shows that only 4,5% of the men participants use the online wine market. For Santos & Ribeiro (2012) this channel can be considered a niche in Portugal. This difference in behaviour does not focus just on the gender but on age and familiarity with the new technologies. Higgins *et al.* (2014) showed that only a small segment of the wine consumers uses digital tools to aid in their choice decision. One possible reason for the use of digital tools is the degree of involvement with wine. As digital tools become more relevant for consumers, the more attention they deserve by marketers, as they constitute an alternative channel to provide information but also to gain information regarding consumers' choices.

Innovation

On the last topic, participants were invited to talk about innovation in the wine industry. This topic was difficult for participants, as it was not clear what innovation meant in the wine industry. Men and women agree that the innovation can be applied to the design of the bottle and label, new methods of production and a link to wine tourism. For some participants the innovation goes through:

(...) Wine label with a QR code that does indexing the production place is different and interactive (...) It is invite to wine tourism. (M,40,#P6); Going to visit the place of production creates a sentimental connection that leads to consumption of the wine (M,44,#P13)

The results demonstrated that participants see the wine market as a mature market with high levels of product differentiation. Communication with the consumer is probably the easiest way to innovate, developing the emotional connection to the choice decision through wine tourism experiences.

Conclusions, implications, limitations and future research

Currently, the question about the cues that seem to be more attractive to consumers and its relation to the wine choice behaviour remains: are there differences in the choice behaviour between men and women? The present article combines the evidence of focus groups with projective techniques and the statistical analysis of a questionnaire to enhance knowledge regarding the effect of gender on wine choice behaviour. The results clearly indicate that men and women look for different extrinsic cues in bottle and label design. Women favour information regarding the context of consumption, while men highlight information related to the sensorial profile.

Wine tasting showed that women are more likely to taste unknown wines, signalling the importance that wine tasting events designed for women may have for marketers.

These conclusions have important implications for the wine industry. In an increasingly competitive market, success can depend on effective labelling and packaging. Product designers and winemakers should use label information as a personalised communication vehicle to attract attention. An attractive illustration of region of origin and wine name seems to be an important aspect in attracting women's attention. For men, establishing a connection between the shape of the bottle and the region of origin may be a good strategy for product differentiation. Other strategies can be applied to help increase region and brand strength in wine market such as guided visits to wine producing estates, co-creation experiences and wine tourism.

An additional strength of this study is the use of wine tasting as a cognitive stimulus for participants to talk about attributes that influence the choice moment.

The limitation of this research is related with its exploratory nature, precluding the generalization of the results. However, the intent of an exploratory analysis is to gain a deeper understanding of a special issue and not to develop generalizable conclusions. The identification and the understanding of the elements that interfere with the process of choosing a wine in these two market segments, which result from this study, provide the necessary knowledge to develop a quantitative study, limited to the dimensions found relevant in this study.

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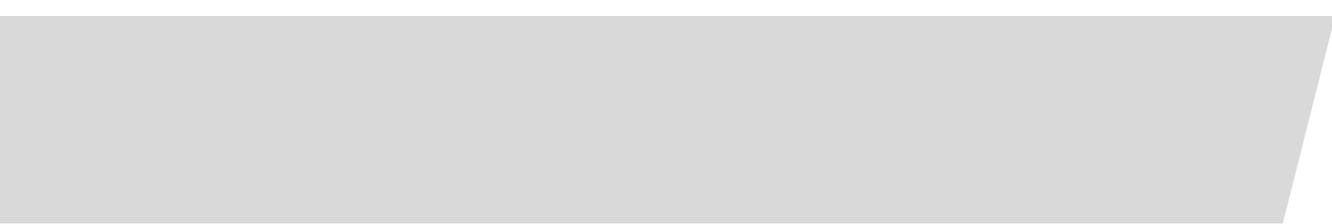
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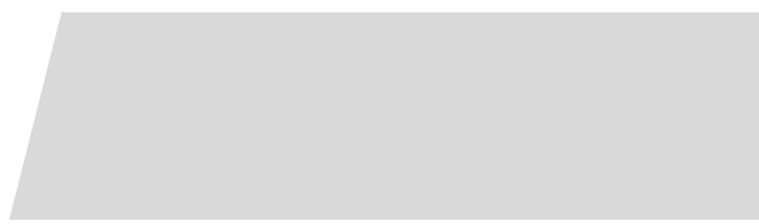
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03.

Chapter 3



Chapter 3. HOW DOES SELF-REPORTED KNOWLEDGE INFLUENCE THE EFFECT OF EXTRINSIC CUES ON WINE CHOICE? A QUALITATIVE APPROACH

Carla Ferreira | Lina Lourenço-Gomes | Lúgia M. Costa Pinto |

In preparation for submission

Purpose- To evaluate wine quality before tasting an individual need more than simple access to information, he must also have the knowledge and the experience to interpret the information provided. This paper intends to contribute to an in-depth understanding of the role that self-reported wine knowledge plays on individual attitudes and behaviour towards choice and evaluation of wine.

Design/ methodology /approach- Five focus groups involving 45 regular red wine consumers were conducted in four Portuguese wine regions. Each session included two projective techniques and a short questionnaire. Qualitative data were transcribed verbatim and content analysis was applied.

Findings- Three main dimensions emerged, highlighting the importance of self-reported wine knowledge on decision-making process: 1) conceptualisation; 2) product adaptation to market; and 3) promotion. Results suggest that for least knowledgeable participants the consumption moment is very important, they consume occasionally, and they choose and evaluate wine quality based on brand, food pairing, alcohol content, and wine image. Inversely very knowledgeable participants consume wine often, and choose and evaluate wine quality based on information such as region of origin, grape variety, and alcohol content.

Practical implications- This study suggest the relevance of self-reported knowledge on wine choice behaviour, contributing for emerging literature on the issue. Furthermore, the results help to design effective marketing communication programmes for enabling consumers to seek and interpret information that may provide improved results of product positioning in the market.

Originality/value- The present research adds to literature related the effect of self-reported knowledge on wine choice. In particular, this paper contributes for a more in-depth understanding about the role self-reported wine knowledge in decision-making process, from the view point of the consumer in different contexts and perceived situations. In particular, the importance of wine knowledge on the evaluation of the quality cues and consequently in differentiating consumer liking is explored. A source triangulation combining qualitative and quantitative methods is applied.

Keywords: Consumer behaviour; Focus group; Self-reported knowledge; Wine cues

Introduction

Consumer knowledge has been considered across a wide variety of products, and has been found to have a recognizable effect on information search, information processing, and decision making (Brucks, 1985). Also, it is expected to influence the processing heuristics followed (Bettman & Park 1980; Robertson, Ferreira, & Botha 2018). This is especially important for wine where the decision process is complex, given that its intrinsic attributes are not subject to evaluation before consumption and thus consumers need to seek information which may be difficult to interpret (Charters & Pettigrew, 2007; Chocarro & Cortiñas, 2013; Nelson, 1970; Plassmann, O’Doherty, Shiv, & Rangel, 2008). Therefore, consumer evaluations of wine can differ considerably based on levels of product self-reported (SR) knowledge (Vigar-Ellis, Pitt, & Berthon, 2015). As the wine market is typically fragmented the salience of extrinsic attributes compared to intrinsic attributes and the importance of SR knowledge on consumer choice process is extremely relevant (Barber, 2009; Ellis & Thompson, 2018).

SR wine knowledge refers to what individuals perceive they know based on expertise as well as on experience (King *et al.*, 2012). It reflects consumer’s self-beliefs about its own knowledge (Alba & Hutchinson, 1987), and consumers’ level of confidence in the expected effectiveness of the decision leading to a particular choice (Bishop & Barber, 2012; Marques & Almeida, 2013; Park & Lessig, 1981; Raju, Lonial, & Mangold, 1995). The literature suggests that consumers use their SR knowledge to interpret objective information about wine and subsequently make a choice (Bruwer & Buller, 2012; Bruwer & McCutcheon, 2017; Johnson & Bastian, 2007; King, Johnson, Bastian, Osidacz & Leigh, 2012; Vigar-Ellis, Pitt & Caruana, 2015 a, b; Ellis & Caruana, 2018; Ellis & Thompson, 2018).

However, the relationship between SR wine knowledge and information seek has not been given much attention (Yuan, Lin, & Zhuo, 2016). The present article intends to fill this gap by exploring how SR knowledge affects the choice of wine. To this end we evaluate whether consumers with different levels of SR wine knowledge have the same choice behaviour, using a qualitative approach. This strategy allowed an approximation between the data collection setting and real wine choice moments decreasing the hypothetical effect of choice.

Literature review

Self-reported (SR) knowledge

Choosing wine is a complex process, especially, due to market differentiation, and to considerable information asymmetry. is essential in the the making-decision process (Marques & Guia, 2018). The literature defines wine knowledge as the measure of how much an individual understands about wine as a product (King et al., 2012). Barber (2009) defines knowledge as a search for internal information, accessible in one's memory. Knowledge comprises essentially two components, objective knowledge and subjective or SR knowledge (Ellis and Thompson, 2018; Flynn & Goldsmith, 1999; Frøst & Noble, 2002; Xiao, Ahn, Serido, & Shim, 2014). SR wine knowledge derives from an individual's perception of how much he/she knows about wine. On the contrary, the objective knowledge refers to what consumer actually knows about the product (Carlson, Vincent, Hardesty, & Bearden, 2008; Ellis and Thompson, 2018; Flynn & Goldsmith, 1999). Several studies demonstrate that there is a gap between consumer's SR knowledge and her/his objective knowledge (e.g. Hadar, Sood, & Fox, 2013). The difference is attributed to over or under confidence about his actual knowledge, thus SR wine knowledge is essentially dependent on self-confidence of consumers (Carlson et al., 2008; Hadar et al., 2013; Brucks,1995).

Previous research highlights the role of SR knowledge in consumer behaviour as it reflects confidence in the decision and an expected effectiveness of that decision (Bishop & Barber, 2012; Marques & Almeida, 2013; Park & Lessig, 1981; Raju et al., 1995). In this context, Brucks (1985) suggests that consumers who believe and report to have good knowledge easily discard perceived inferior options. The same author demonstrates also the influence of SR knowledge in the decision-making process in relation to objective knowledge. Furthermore, past experience with the product category, is very important to SR knowledge and not to objective knowledge (Park, Mothersbaugh & Feick, 1994). Thus, related literature suggests that information processing during choice depends more on SR knowledge than on objective knowledge of the product.

Brunner & Siegrist (2011) identify the SR knowledge as the main determinant of the quantity of wine consumed. Nevertheless, the SR wine knowledge and its relationship with information seek has not been given much attention (Yuan et al., 2016). In the context of wine consumers, Vigar-Ellis et al. (2015) argue that the opinion leader behaviour is positively influenced by SR wine knowledge. Recently, Utkarsh, Sangwan,

& Agarwal (2019) show that consumers with high SR knowledge and high confidence in information acquisition ability are more likely to search for information.

Wine attributes and SR wine knowledge

Wine is defined as an “information-intensive” product with many intrinsic and extrinsic cues for consumers (Bruwer & Thach, 2013). Extrinsic cues are characteristics that can be altered without modifying wine quality, for example: price, brand, packaging, labels, shelf location, and awards (Casini, Corsi, & Goodman, 2009; Galati, Crescimanno, Abbruzzo, Chironi, Tinervia, 2017; Lockshin & Hall, 2003; Sáenz-Navajas, Campo, Sutan, Ballester, & Valentin, 2013); intrinsic cues are directly linked to the sensory quality of the wine, such as grape variety, alcohol content, colour, and sensory profile. Nevertheless, sensory quality is complex, subjective, and difficult to measure and communicate. Several studies show that price, brand, taste, region of origin and labelling are the most cited attributes influencing wine consumers’ preferences and quality perception (Lockshin & Corsi, 2012; Lockshin & Hall, 2003). Many times, when other cues are not available, the perception of wine quality is based on price (Lockshin & Hall, 2003). In the same vein, the brand can replace a set of attributes and simplify the wine evaluation (Burke, Eckert, & Sethi, 2019; Chernev, Hamilton, & Gal, 2011). In general, the brand is used to identify the wine within the region of origin (Lockshin & Corsi, 2012).

Empirical evidence shows that the region of origin is one of the main attributes in determining wine quality whilst opposing to other attributes. According to Madureira & Nunes (2013) and Pettigrew & Charters (2006) the influence of this information depends on consumer’s involvement level, gender, and economic status. Balabanis, Diamantopoulos, Mueller, & Melewar (2001) add that ethnocentrism plays an important role in consumers’ choice. Ethnocentrism is well documented in the literature, and it defines the situation where consumers favour domestic or regional products in their choices irrespective of other attributes (Balabanis, Mueller, & Melewar, 2002). In this context, Capitello, Agnoli, & Begalli (2016) investigate whether different sensory profiles of wine belonging to the same region are perceived as different wines by consumers. The results show that different sensory profiles lead to also different perceptions of products by consumers. The perception of differences was less marked for consumers than for trained assessors. Regions such as Rioja, Douro Valley, and

Bordeaux, for example, use their regional identity as a competitive advantage to boost consumer preferences (Mehta & Bhanja, 2018). Scorrano, Fait, Iaia, & Rosato (2018) studied which features improve the perceived quality of wine tourism destinations', especially the role of the image. The findings showed that wine tourists see Bordeaux region as a benchmark of wine tourism destinations.

Labels, on the other hand, are the most cost-effective way for wine producers to communicate product's quality to consumers. Thus, several studies have emerged to identify the influence of back label statements on wine quality perception and value (Atkin, Nowak, & Rosanna, 2007; Barber et al., 2006; Thomas and Pickering, 2005) and also to understand the level of importance given by wine consumers to the various back label attributes at the moment of choice (Mueller, Lockshin, Saltman, & Blanford, 2010). In addition to the information provided, label design (front and back) is an important "seller" of the product. In the same line, a significant body of research suggests that package design is extremely influential at moment of decision-making (Hertenstein, Marjorie, & Veryzer, 2005; Orth & Malkewitz, 2008; Rettie & Bruwer 2000). In particular, package design can help the creation of strong brands and distinguishing offerings. Orth & Malkewitz (2008) suggested some guidelines to help managers choose package designs to foster the desired consumers' responses. For example, sincere brands should opt for natural package designs, while rugged brands should present contrasting or massive designs. For these authors, wine bottle contains a wide variety of design elements that allows different brand personalities.

Understanding how knowledge influences wine consumers' behaviour and, consequently, their decision-making, has been point of interest for wine marketers and wine marketing scholars (Ellis & Caruana 2018; Vigar-Ellis, Pitt, & Caruana 2015a, b). In this context, Robson, Plangger, Campbell, & Pitt (2014) state that how much a consumer knows or thinks he know about wine can influence several aspects of the wine marketing strategy. Consumers with higher SR wine knowledge neither need much information to choose nor use other risk reducing strategies; while consumers with less SR wine knowledge opt to choose the same type and/or brand of wine and use other risk reducing strategies, for example to seek for external information (Awasthy, Banerjee, & Banerjee, 2012; Johnson and Bastian , 2007; Maity et al., 2014). For instance, low SR wine knowledge consumers give more relevance to awards and medals in wine choice decisions (Bruwer & Buller, 2012). On the other hand, high SR wine knowledge consumers are better able to process information to evaluate wine quality; they tend to

privilege wine stores and producers for shopping and they are willing to pay more for a wine bottle (Lee et al. 2018). Blackman, Saliba, & Schmidtke (2010) suggested that consumer liking for different levels of sweetness depends on the level of SR knowledge.

However, there is little information relating wine knowledge to consumer liking (King *et al.* 2012). Consumers with high SR wine knowledge privilege impersonal sources of information demonstrating the need to update their knowledge (Barber, Dodd, & Kolyesnikova, 2009; Dodd, Laverie, Wilcox, & Duhan, 2005). This consumer group tend to share information in online communities reinforcing their positive knowledge perceptions (Oh & Abraham, 2016; Packard & Wooten, 2013). Additionally, consumers with high SR wine knowledge are considered opinion leaders who can influence not only the choice decision but also the sensory experiences (Grewal, Mehta, & Kardes, 2000; Kiani, Laroche, & Paulin, 2016; Vigar-Ellis et al., 2015). In sum, SR knowledge is a key determinant of wine consumers' behaviour (Marques & Guia, 2018; Utkarsh et al 2019). Moreover, in relation to objective knowledge, the SR knowledge is considered to be a better predictor of the search behaviour (Oh & Abraham, 2016) and in alleviating barriers to behaviour change. In a certain way, high SR knowledge can be considered as the result of a high objective knowledge and previous experience (Raju et al., 1995). In sum, considering the complex nature of wine with a number of cues to assess quality, the decision-making process depends more on SR knowledge than objective knowledge.

Aims of research

Although the role of knowledge on consumers' behaviour has been identified in the literature (Ellis & Caruana 2018; Vigar-Ellis, Pitt, & Caruana 2015a, 2015b), there is a lack of scientific work regarding how and by what means SR wine knowledge influence consumers' choice, particularly in Portugal. Madeira & Nunes (2013) explored the importance of wine attributes for Portuguese consumers, but the effect of SR wine knowledge was not considered. Recently, Ferreira, Lourenço-Gomes, Pinto, & Silva (2019) applied a qualitative approach combined with projective techniques to study the impact of gender on wine choice in Portuguese consumers, but did not investigate the influence of SR wine knowledge on observed behavioural differences. To the authors knowledge there is no exploratory study, in which SR wine knowledge predicts consumer's behaviour. Therefore, the main objective of the present research is to fill in this gap identified in the literature by applying an exploratory study to investigate the

impact of SR wine knowledge on wine choice. We evaluate whether consumers with different levels of SR wine knowledge have the same choice behaviour.

Based on literature related, Figure 3.1 represents the conceptual framework followed, which highlights the relations among the topics investigated concerning the role of SR wine knowledge on choice decision. The main themes are related to each other in the following way. According to buying and consumption habits, consumers actively seek information and details about the wine. The overload of information creates the psychological feeling of oversaturation that lowers the decision maker's ability to make an assessment. Under these conditions and based on their previous experience (motivations, perceptions, and symbolism) consumers will self-assess which cues or how many cues are relevant in their decision-making; a process that results from the influence of SR wine knowledge. Our research approach allows us to develop a comprehensive understanding of phenomena through multiples perspectives regarding the source of data and the method used (Draper, 2004). Additionally, we combine projective techniques to create a situation that is closer to real consumption and product evaluation, improving the understanding of the role of SR wine knowledge on consumer behaviour (Pettigrew and Charters, 2008; Velikova et al. 2016). Our approach expands previous researches (Bengtsson, 2016; Massey, 2011) regarding the role SR wine knowledge in decision-making process, from the view point of the consumer in different contexts and perceived situations. Thus, this exploratory paper intends to contribute to design effective marketing communication programmes for enabling consumers to seek and interpreter information that may provide improved results of product positioning in the market. The evidence from this study suggest the relevance of SR knowledge on wine choice behaviour, contributing for emerging literature on the issue.

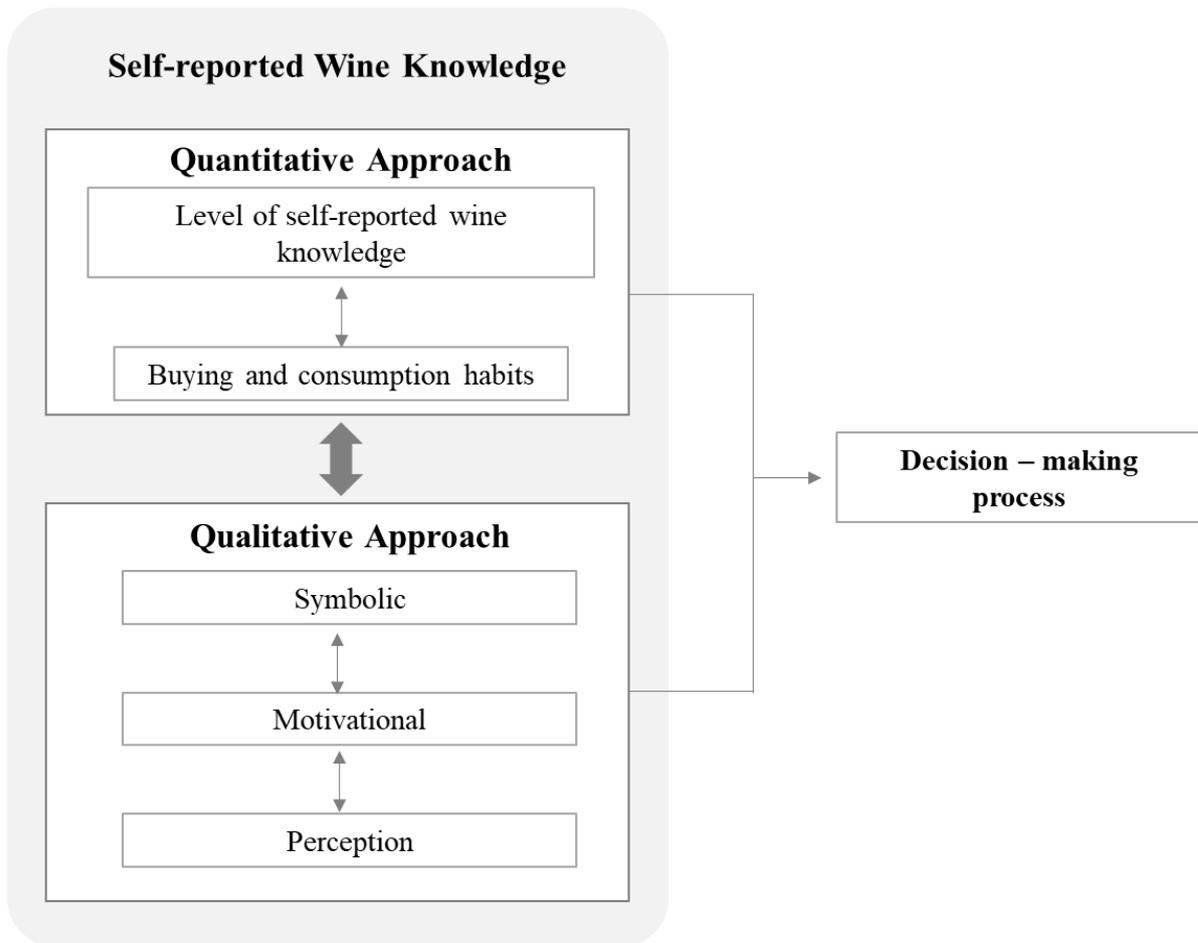


Figure 3.0.1- Conceptual Framework

Materials and methods

This study combines focus group with word association and tasting as two projective techniques. Focus group is a good approach to identify feelings, beliefs and opinions about a specific topic (Charters and Pettigrew, 2006; Pettigrew and Charters, 2008; Velikova *et al.*, 2016). The inclusion of projective techniques into focus group is especially important to develop a deeper understanding of participants' perception and association regarding a specific topic. Therefore, the use of these techniques in consumer marketing and behaviour studies allow to explore the characteristics of consumer experiences and help to overcome difficulties of communication that would otherwise be more difficult to analyse (Barbour, 2007; Boddy, 2005; Steinmann, 2009). Additionally, three types of triangulation were applied as a strategy to test validity of information collected: method triangulation; investigator triangulation and data source triangulation (Denzin, 1978).

Recruitment

Five focus groups were conducted in five universities located in four different Portuguese wine regions (Verdes, Bairrada (two sessions), Douro and Lisbon), with a total of 45 participants. All focus groups took place late in the afternoon (where red wine consumption is preferable). Participants were manually and personally recruited ensuring that all were Portuguese native speakers, had a good general state of health (SR), had some experience in choosing wine, were regular still wine consumers and had 35 or more years old. The age criterion was suggested by the literature as several studies show that older consumers have more experience on choice and consumption of a red wine bottle (Bruwer, Li, & Reid, 2002; Wolf, Carpenter, Qenani-Petrela, 2005). The main exclusion criteria were having some kind of allergy to wine, being a wine industry professional, and be pregnant or lactating women. Participants signed an informed consent form and received a non-monetary payment for their participation.

Participants

Forty-five individuals participated in the research, of which 49% were women. Participants ranged in age from 35 to 68 years old (mean=46,4 years, standard deviation=8,5 years). Regarding to professional situation, 87% of the participants were employed and had some university education (graduation or more). For the SR knowledge about wine, 53% of the participants said they have a medium level of knowledge. The

Table 3.1 **Erro! A origem da referência não foi encontrada.** presents a general description of the participants by session and by level of SR knowledge.

Table 3.1– General characterization of the participants by session and wine knowledge

| Session | Total (n=45) | Level of SR wine knowledge | | | | |
|--------------------------|-----------------|----------------------------|----------------|------------------|---------------|--------------------|
| | | Null (n=1) | Weak (n=14) | Medium (n=24) | Good (n=4) | Very good (n=2) |
| <i>Wine region: City</i> | | | | | | |
| Vinho Verde: Braga | 9 (20%) | 0 (0%) | 3 (22%) | 6 (25%) | 0 (0%) | 0 (0%) |
| Bairrada: Coimbra A | 8 (18%) | 1 (100%) | 2 (14%) | 2 (8%) | 3 (75%) | 0 (0%) |
| Douro: Vila Real | 9 (20%) | 0 (0%) | 3 (21%) | 5 (21%) | 0 (0%) | 1 (50%) |
| Lisboa: Leiria | 9 (20%) | 0 (0%) | 2 (14%) | 6 (25%) | 0 (0%) | 1 (50%) |
| Bairrada: Coimbra B | 10 (22%) | 0 (0%) | 4 (29%) | 5 (21 %) | 1 (25%) | 0 (0%) |

Questionnaire

A short questionnaire, including some questions on wine consumption and buying habits was applied at the beginning of each session as respondents could feel reluctant to share some information with others during the session and also because several studies suggest that group social pressure may influence responses (Chambers, Lobb, Butler, Traill, 2008). Survey questions were on wine consumption behaviour (type of wine consumed, wine consumption frequency, wine consumption per occasion, and hedonic taste) and on purchasing habits (wine buying frequency, reason to buying wine, place of buying, the importance given to information, and willingness to pay for a wine bottle) a question to ascertain the SR knowledge about wine was also included. Sociodemographic questions were posed at the end of the questionnaire.

Product

The exploratory research was designed to examine consumers' perceptions regarding wine choice behaviour, especially with regard to knowledge and product choice. A wine from each of the five Portuguese wine regions was selected for tasting: *Douro, Península de Setúbal, Dão, Alentejo, Lisboa*. Participants in each focus group were given the same five wines. All wines were within the same price category, to ensure

comparable quality level between the products. The selection of wines intended to provide some variety regarding the information provided, region of origin and the design of labels, and also to stimulate some debate about the extrinsic cues.

Protocol

Focus group questions were developed based on an extensive review of the literature on wine consumers' behaviour, and pre-tested regarding the sequence and content of the questions (Barbou & Morgan, 2017; Morgan, 1997). Focus groups started with an introduction regarding the aim of the study and the application of the questionnaire. Participants were then asked to indicate the first words, associations, thoughts or feelings that came to their mind when they thought of a wine bottle. Then, participants were invited to select a wine of the five wines available for tasting. After tasting, they were asked to explain their choice of wine. Next, subjects' opinion regarding the descriptors composing the back label was elicited. In the final set of questions, participants were encouraged to talk about the wine consumption moment and the use of digital tools. In the end, a summary of the discussion was made and participants were acknowledged for their collaboration. The sessions were video recorded and later transcribed. Each discussion was moderated by the first author and a note-taker was also present. Duration of each session was around 1,5h. Table 3.2 reports the main questions and prompts applied during each focus group interview.

Table 3.2- Focus group interview

| Stage | Main question |
|--|--|
| 1. Welcome | Introduction to the research |
| 2. Questionnaire | - |
| 3. Individual exercise: word association | What are the main words you associate, when think wine? |
| 4. Tasting session | Participants were stimulated to choose a wine among five to taste |
| 5. Discussion | Why did you choose this wine? Do you give attention the back label? What type of information do you see? What kind of information is most relevant? |
| 6. Summary | Summary of the session and acknowledgment |

Data Analysis

Data collected from focus groups and questionnaire were analysed as summarized in Table 3.3.

Table 3.3- Main dimensions and sources for data triangulation

| Data source | | Data Analysis | |
|--|---|--|---|
| Focus group | Questionnaire | Focus group | Questionnaire |
| <ul style="list-style-type: none"> • Word association | <ul style="list-style-type: none"> • Wine consumption frequency • Glasses of wine consumed | <ul style="list-style-type: none"> • Content Analysis | <ul style="list-style-type: none"> • Descriptive analysis • Kruskal-Wallis test |
| <ul style="list-style-type: none"> • Tasting session | <ul style="list-style-type: none"> • Wine consumption frequency • Level of importance given to several extrinsic cues | | |
| <ul style="list-style-type: none"> • Discussion | <ul style="list-style-type: none"> • Purpose of buying wine • Points of buying • Level of importance given to several extrinsic cues | | |

A first analysis provides some information to characterize participants using descriptive statistics. Given the exploratory nature of the study, differences between individual SR knowledge about wine are identified applying a Kruskal-Wallis test. Data gathered during the sessions was transcribed verbatim in Portuguese. The transcriptions were then imported to Nvivo qualitative data analysis software (QRS International Ltd. Version 11) for content analysis. According to content analysis four phases main were followed: the de-contextualization, the re-contextualization, the categorisation, and the compilation (Bengtsson, 2016). Key categories from focus groups were identified by two researchers, one of them trained in content analysis. These categories had in common the keywords and fragments from the participants' discourse (Bengtsson, 2016). Some categories were previously defined based on the literature (Madureira & Nunes, 2013; Mueller et al., 2010), while others emerged during the analysis. For instance, the phrases and words used by participants during the word association task were grouped in different categories, according to terms with similar meaning. For each category, frequencies of semantic units (word) were calculated. The relation between categories was explored based on the frequency computed: the higher the frequency, the greater importance for participants (Silva *et al.*, 2016).

Findings

Sample characteristics vary by SR wine knowledge, in particular, the percentage of men is higher in higher levels of wine knowledge, the same happening with the frequency of consuming wine. However, the difference in consumption is not statistically significant by knowledge level (Table 3.4). A comparison of the mean score of hedonic taste reveals that participants with high level of SR wine knowledge extremely like or like very much red wine; while participants with null or weak SR wine knowledge like moderately or extremely dislike red wine (Table 3.5).

Regarding buying habits, results show that the frequency of buying red wine is higher among participants with higher SR knowledge; while those stating lower knowledge levels opt to purchase occasionally (several times a year) or only once a year. In this context, participants with good and very good SR knowledge about wine buy for general consumption. On the contrary, participants less knowledgeable buy specially to offer or for consumption on special occasions. Participants were then asked about wine purchasing locations. Only the knowledgeable participants choose wine shops to buy a bottle of red wine, the remaining choose to buy in supermarkets. Online shopping was residual (Table 3.4). Furthermore, participants were asked about their willingness to pay per bottle of red wine. The results show that participants with very good knowledge are willing to pay more per bottle than other consumers (Table 3.5).

Table 3.4- Wine consumption and purchase by level of SR wine knowledge

| | Relative frequency (%) | | | | | Total | <i>p-value</i> |
|-------------------------------------|----------------------------|------|--------|------|-----------|-------|----------------|
| | Level of SR wine knowledge | | | | | | |
| | Null | Weak | Medium | Good | Very good | | |
| Gender | | | | | | | 0.472 |
| Women | 100% | 64% | 37% | 50% | 50% | 49% | |
| Men | 0% | 36% | 63% | 50% | 50% | 51% | |
| Wine consumption frequency | | | | | | | 0.025** |
| Several times a month | 0% | 21% | 58% | 100% | 50% | 49% | |
| Once a month | 0% | 14% | 13% | 0% | 0% | 11% | |
| Occasionally (several times a year) | 0% | 65% | 25% | 0% | 50% | 36% | |
| Once a year | 100% | 0% | 4% | 0% | 0% | 4% | |
| Glasses of wine consumed | | | | | | | 0.273 |
| 1 | 100% | 43% | 22% | 25% | 0% | 30% | |
| 2 to 3 | 0% | 43% | 56% | 75% | 50% | 52% | |
| more of 3 | 0% | 14% | 22% | 0% | 50% | 18% | |
| Wine buying frequency | | | | | | | 0.032** |
| Several times a month | 0% | 14% | 21% | 50% | 50% | 22% | |
| Once a month | 0% | 14% | 17% | 50% | 50% | 20% | |
| Occasionally (several times a year) | 0% | 57% | 58% | 0% | 0% | 49% | |
| Once a year | 100% | 14% | 4% | 0% | 0% | 9% | |
| Purpose of buying wine | | | | | | | 0.200 |
| Current consumption | 0% | 3% | 29% | 25% | 50% | 20% | |
| Offer | 100% | 0% | 8% | 25% | 50% | 11% | |
| Consumption in special occasions | 0% | 90% | 42% | 25% | 0% | 53% | |
| All occasions | 0% | 7% | 21% | 25% | 0% | 16% | |
| Points of buying | | | | | | | 0.061* |
| Online shop | 0% | 7% | 0% | 0% | 0% | 2% | |
| Supermarkets | 100% | 86% | 63% | 0% | 0% | 64% | |
| Wine shop | 0% | 7% | 38% | 100% | 100% | 33% | |
| N | 1 | 14 | 24 | 4 | 2 | 45 | |

** Indicate *p*-values significant at the 0.05 level; *Indicate *p*-values significant at the 0.10 level

The final question presented comprised a set of items on how important each type of information is at the moment of choice. According to the results (Table 3.5), the level of SR knowledge by participants is related to the importance attributed to information. Participants with higher SR knowledge give more importance to region of origin, previous experience and sensory profile. On the other hand, participants with less SR knowledge consider the price, region of origin, previous experience and food pairing as most important. Finally, Table 3.5 shows that the distribution of the importance of

information across SR knowledge level is statistically significantly different for alcohol content, grape variety, sensory profile and region of origin.

Table 3.5- Mean score of hedonic taste, information, and mean WTP by level of SR wine knowledge

| | Mean score | | | | | <i>p-value</i> |
|-----------------------------------|----------------------------|------|--------|-------|-----------|----------------|
| | Level of SR wine knowledge | | | | | |
| | Null | Weak | Medium | Good | Very good | |
| Hedonic taste ^a | | | | | | |
| | 1 | 7 | 8 | 8 | 9 | 0.050** |
| Information ^b | | | | | | |
| Alcohol content | 4 | 5 | 5 | 3 | 2 | 0.071* |
| Back label information | 6 | 5 | 4 | 4 | 5 | 0.293 |
| Bottle form | 6 | 4 | 4 | 4 | 4 | 0.273 |
| Brand | 7 | 5 | 5 | 4 | 5 | 0.508 |
| Food pairing | 4 | 6 | 5 | 6 | 5 | 0.605 |
| Front label attractive | 5 | 5 | 4 | 5 | 5 | 0.651 |
| Grape Variety | 5 | 4 | 5 | 6 | 5 | 0.072* |
| I read about it | 6 | 4 | 4 | 4 | 4 | 0.129 |
| Medals/ awards | 6 | 5 | 5 | 4 | 4 | 0.508 |
| Previous experience | 5 | 6 | 5 | 6 | 7 | 0.681 |
| Price | 4 | 6 | 5 | 5 | 4 | 0.227 |
| Sensory Profile | 5 | 5 | 5 | 6 | 6 | 0.082* |
| Region of origin | 5 | 6 | 6 | 7 | 7 | 0.104* |
| Wine history | 5 | 4 | 5 | 6 | 5 | 0.441 |
| WTP (€/bottle) | | | | | | |
| | 20.00 | 7.93 | 10.50 | 17.50 | 27.50 | 0.021** |

^a Hedonic taste on a scale of one to nine with one equal to *Dislike extremely* and nine equal to *Like extremely*;

^b Importance level on a scale of one to seven with one equal to *No at all important* and seven equal to *Extremely important*;

** Indicate *p*-values significant at the 0.05 level; *Indicate *p*-values significant at the 0.10 level

In sum, participants with higher SR knowledge consume and buy wine more often, opt to buy in wine shops and seek information to evaluate wine intrinsic quality. On the contrary, participants with lower level of SR knowledge are more frequently women which consume occasionally, purchase wine most frequently to offer, and especially on supermarkets. For this group of participants, the wine image and particularly the brand are very important information sources at moment of choice.

Triangulating information sources, focus group analysis by SR knowledge level confirms conclusions drawn from analysis of the survey, and adds variables to the

analysis. The discussion began with an individual exercise about conceptualization of wine. Participants were asked:

What are the main words you associate, when think wine?

Each participant explained their main motives for the association. Categories and unit semantics identified are shown in Table 3.6. Of a total of one hundred and thirty-six citations, the results suggest that unit semantics of the category *consumption moment* (53%) and *features of the wine* (40%) were mentioned more frequently, in relative terms. *Wine image* association, such as region of origin, design, label, and price, were also reported but by a lower percentage of participants.

Table 3.6-Categories, unit semantics and their relative importance by level of SR wine knowledge ⁽¹⁾

| | | Relative importance (number of times) | | | | | | Level of SR wine knowledge | |
|----------------------|------------------|---------------------------------------|-----------|-----------|-----------|-----------|-----------|----------------------------|---------------------|
| Category | Unit semantics | Number of times | | | | | | Relative importance | |
| | | Null | Weak | Medium | Good | Very good | Total | % within category | % across categories |
| Consumption Moment | | 0 | 33 | 36 | 1 | 2 | 72 | 100 | 53 |
| | Charm | 0 | 1 | 0 | 0 | 0 | 1 | 1 | |
| | Family | 0 | 2 | 4 | 0 | 0 | 6 | 8 | |
| | Conviviality | 0 | 13 | 12 | 1 | 2 | 28 | 39 | |
| | Friends | 0 | 4 | 8 | 0 | 0 | 12 | 17 | |
| | Joy | 0 | 3 | 2 | 0 | 0 | 5 | 7 | |
| | Meal | 0 | 8 | 7 | 0 | 0 | 15 | 21 | |
| Relaxation | 0 | 2 | 3 | 0 | 0 | 5 | 7 | | |
| Features of the wine | | 0 | 27 | 8 | 10 | 9 | 54 | 100 | 40 |
| | Alcohol | 0 | 6 | 1 | 0 | 0 | 7 | 13 | |
| | Aroma | 0 | 3 | 0 | 0 | 0 | 3 | 6 | |
| | Colour | 0 | 4 | 3 | 0 | 0 | 7 | 13 | |
| | Flavour | 0 | 10 | 2 | 2 | 0 | 14 | 26 | |
| | Grape variety | 0 | 0 | 0 | 0 | 3 | 3 | 6 | |
| | Pleasure | 0 | 0 | 2 | 4 | 6 | 12 | 22 | |
| | Quality | 0 | 0 | 0 | 4 | 0 | 4 | 7 | |
| | Softness | 0 | 1 | 0 | 0 | 0 | 1 | 2 | |
| Texture | 0 | 3 | 0 | 0 | 0 | 3 | 6 | | |
| Wine image | | 2 | 6 | 2 | 0 | 0 | 10 | 100 | 7 |
| | Design | 1 | 2 | 0 | 0 | 0 | 2 | 20 | |
| | Label | 1 | 1 | 0 | 0 | 0 | 3 | 30 | |
| | Price | 0 | 1 | 0 | 0 | 0 | 1 | 10 | |
| | Region of origin | 0 | 2 | 2 | 0 | 0 | 4 | 40 | |

⁽¹⁾ Only absolute frequencies are reported because each respondent refers more than one word.

Analysing the word association by SR wine knowledge groups, the discussion appears to indicate some differences. Least knowledgeable participants associate wine to its consumption moment and to its features, specially the flavour. The category *consumption moment*, such as *conviviality*, was stated by a higher number of participants with weak or medium knowledge, than by participants with higher SR knowledge. The less-knowledgeable participants stated they consume wine in convivial moments among friends and family.

The fireplace. Good times and good wines by the fireplace (...) enhance the pleasure of drinking. (SR wine knowledge: weak, #P13); *Conviviality. I associate wine with a meal but above all with the pleasurable events. A meal is a special moment with friends.* (SR wine knowledge: weak, #P30)

On the contrary, participants with good and very good knowledge associated the consumption of wine to its features, particularly sensorial pleasure. For these participants wine is synonym of tasting and enjoyment.

Pleasure / Taste. (...) For taste and sensorial pleasure. The feeling of wine tasting is good. (SR wine knowledge: good, #P17); *Taste, life. "life is better with wine" is my favourite saying.* (SR wine knowledge: very good, #P33)

After the word association task, the participants were invited to choose one wine for tasting and answer several questions. The first question stated:

Why did you choose this wine?

Douro wine was the first choice for most participants. Douro wine was the most frequently chosen by participants who are more knowledgeable (good and very good levels), while *Lisboa* wine and *Península de Setúbal* were chosen by participants with less knowledge (medium and weak knowledge).

As shown in Figure 3.2, the reasons for their first choice are associated with the SR knowledge. Participants who stated good and medium wine knowledge mentioned their previous experience as justification for the wine choice, while for less knowledgeable (weak knowledge) the wine image was the most cited factor.

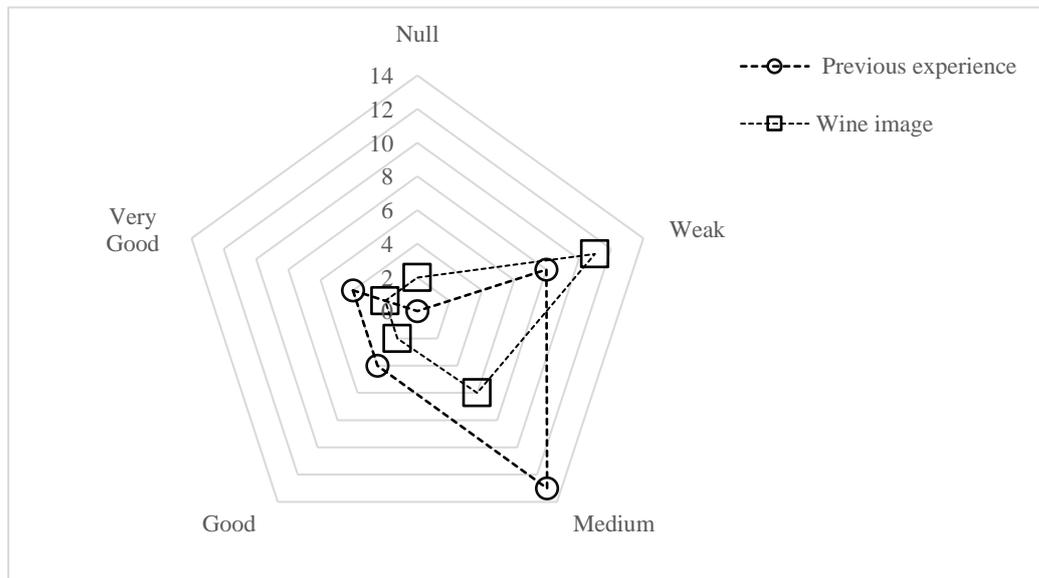


Figure 3.0.2- Choice reasons (number of times) by level of self-reported knowledge

With respect to the role of previous experience in wine choice, participants either opt for a safe choice, as a previously tasted wine, or prefer to try other wines. Most participants decided for a safe choice. Participants with good and very good knowledge said that the safe choice was a good starting point for conversation. These consumers argue that knowing helps to talk about the characteristics of the wine, whereas other groups were less likely to report this.

Douro, because I did not know this specific wine (...) the others I already knew. (SR wine knowledge: weak, #P8); *Douro, because I knew it. I went for the safe choice.* (SR wine knowledge: good, #P17)

Wine image is a composite good comprising several attributes influencing product choice. This category was discussed in six semantic units: back label, bottle shape, brand, front label, wine name, and region of origin. In general, the region of origin and brand were the most frequently reported factors. Best knowledgeable participants referred more often to the region of origin, and less knowledgeable to the brand.

Higher knowledgeable participants recognize different level of perceived quality among regions. For less knowledgeable, a brand gives them a sense of safety of a good choice.

Douro, because I did not know the wine and because it is from Douro region. (SR wine knowledge: medium, #P8); Douro (...) because I know the wine brand (...) (SR wine knowledge: weak, #P23); Dão, because I prefer Dão to Douro wines (SR wine knowledge: good, #P43).

Applying cognitive stimuli, participants were asked about the attractiveness of the wine bottle, the information it conveyed and its design. Participants with more knowledge referred that sometimes the shape of the bottle is associated with a particular region of origin. Overall, participants revealed a preference towards the Bordalesa design.

I like more elegant bottles [Bordalesa design] (...) the size does not differ much but the visual aspect does (SR wine knowledge: weak, #P19); I do not like Borgonhesa design. I find it less attractive. (SR wine knowledge: medium, #P35)

Regarding the information provided by labels, nine categories were discussed (Table 3.7). The results suggest that participants with good and very good knowledge are attracted only by the region of origin, because this signals sensorial quality. Contrariwise, for the less wine connoisseurs, awards/medals and brand are the most attractive drivers of a safe choice. The region of origin, awards/medals, and brand were the three categories cited by a higher number of participants, who argued that this information can be a good quality indicator at the choice moment.

Table 3.7 - Categories of labels and their relative importance by level of SR wine knowledge

| Categories | Number of times | | | | | Total |
|---------------------|----------------------------|------|--------|------|-----------|-------|
| | Level of SR wine knowledge | | | | | |
| | Null | Weak | Medium | Good | Very good | |
| Region of origin | 0 | 0 | 8 | 3 | 4 | 15 |
| Awards | 1 | 5 | 4 | 0 | 0 | 9 |
| Brand | 1 | 2 | 5 | 0 | 0 | 9 |
| Name | 0 | 2 | 4 | 0 | 0 | 6 |
| Brand illustration | 0 | 1 | 4 | 0 | 0 | 5 |
| Region illustration | 0 | 2 | 2 | 0 | 0 | 4 |
| Year | 0 | 1 | 2 | 0 | 0 | 3 |
| History | 0 | 1 | 3 | 0 | 0 | 4 |
| Alcohol content | 0 | 1 | 0 | 0 | 0 | 1 |

(...) *the region of origin is very important* (...) (SR wine knowledge: good, #P12); *I, for example, go to a shelf, the first thing I look at is the label and then the region of origin* (SR wine knowledge: medium, #P35) (...) *The image helps people identify.* (SR wine knowledge: medium, #P29)

One particular important source of information on wines is the back label. Participants were invited to talk about it, referring to the importance of the information provided. Participants use back labels to find information on the main wine features. However, they reported that back labels contain excessive information, being difficult to read and are not very attractive for consumers. Nine categories were cited by participants (Table 3.8). Grape variety, alcohol content, wine history and winemaker, were the cues reported by a higher number of participants. Again, the level of SR knowledge is associated with the type of the information cited. Participants with medium and very good knowledge mentioned grape variety as the most relevant information, the well-informed stated the winemaker and the misinformed indicated the food pairing.

Table 3 8- Categories of Back Label and their relative importance by level of SR wine knowledge

| Categories | Number of times | | | | | Total |
|-----------------|----------------------------|------|--------|------|-----------|-------|
| | Level of SR wine knowledge | | | | | |
| | Null | Weak | Medium | Good | Very good | |
| Grape variety | 0 | 3 | 15 | 3 | 6 | 27 |
| Alcohol content | 1 | 5 | 6 | 1 | 4 | 17 |
| Wine history | 0 | 3 | 9 | 0 | 0 | 12 |
| Food pairing | 1 | 7 | 2 | 0 | 0 | 10 |
| winemaker | 0 | 1 | 5 | 4 | 2 | 12 |
| Year | 0 | 2 | 2 | 0 | 0 | 4 |
| Origin country | 0 | 0 | 1 | 0 | 0 | 1 |
| Sensory profile | 0 | 3 | 3 | 0 | 0 | 6 |

(...) *I essentially look for information on grape varieties* (SR wine knowledge: medium, #P3); *The wine must tell its history ... I like to read.* (SR wine knowledge: medium, #P15); *I look for the characteristics of the wine. The alcohol content, the type of grape..* (SR wine knowledge: very good, #P21).

Before and during the meal. The wine goes well with company and with a meal. During meals but also outside. (SR wine knowledge: medium, #P2); *At meal.* (SR wine knowledge: weak, #P9).

In the topic of digital tools, participants were asked about its use to choose a wine. Most participants said that they did not use digital tools. When it occurs, participants with low knowledge search for information about the price, and reviews, whereas very knowledgeable participants seek wine history and reviews.

I have used it, but I do not like the application (SR wine knowledge: medium, #P35); *I use essentially to register my opinion* (SR wine knowledge: good, #P16); *It is important for so many brands. It is an interesting tool for consumers. I use it to look for wine information.* (SR wine knowledge: very good, #P17).

Theoretical Contributions

This exploratory study provides a more in-depth understanding about the motivations, attitudes, and behaviour of wine consumers, and to investigate how SR wine knowledge influence their effects on wine choice. Based on the conceptual framework use and the results obtained (Table 3.3), three main dimensions were identified showing the influence of SR wine knowledge on decision-making process: 1) conceptualisation; 2) adapt the product to market; and 3) promotion. Table 3.9 summarises the main findings by dimension and level of SR wine knowledge.

Table 3. 9- Summary of the main findings by main dimension emerged and level of SR wine knowledge

| Main dimension | Level of SR wine knowledge | | |
|------------------------------|--|---|---|
| | Null or Weak knowledge | Medium knowledge | Good or very good knowledge |
| Conceptualisation | <ul style="list-style-type: none"> • They consume wine occasionally or once a year • They associate the wine to good conversation | <ul style="list-style-type: none"> • They consume wine several times a month • They associate the wine to conviviality among friends or family | <ul style="list-style-type: none"> • They consume wine several times a month • They associate the wine to sensorial pleasure |
| Product adaptation to market | <ul style="list-style-type: none"> • Front label: Wine image (awards/medals; brand; name; region illustration) as drives of a safe choice; • Simplify the back-label information; • Back-label: Food pairing and alcohol content as the information most sought | <ul style="list-style-type: none"> • Front label: Region of origin and the brand as quality cues; • Simplify the back-label information; • Back-label: Grape variety and wine history as the information most sought | <ul style="list-style-type: none"> • Front label: Region of origin as signals sensory quality; • Simplify the back-label information; • Back-label: Grape variety and winemaker as the information most sought |
| Promotion (digital tools) | <ul style="list-style-type: none"> • Promotion of digital tools; | <ul style="list-style-type: none"> • Promotion of digital tools; | <ul style="list-style-type: none"> • Improve the use of ecommerce to aid the wine choice process |

The results from the questionnaire and the focus group qualitative analysis indicate that SR wine knowledge plays an important role to understand the choice decision process. More knowledgeable participants are mostly men, consume and buy wine more often, opt to buy in wine shops and seek information to evaluate wine intrinsic quality. On the contrary, least knowledgeable participants are women, consume occasionally,

purchase wine most frequently to offer, and especially in supermarkets. For this group of participants, the wine image and particularly the brand are very important information sources at moment of choice. However, according to Burke *et al.* (2009), the positioning strategies should not only consider the role of the brand. For these authors while brands can be well positioned, their utility can be undermined by perceptions on the other extrinsic cues.

Previous research has indicated differences in behaviour between the two groups of participants (Ellis & Thompson, 2018; Gustafson, Lybbert, & Sumner, 2016; Marques & Guia, 2018; Thach & Olsen, 2015). For instance, Thach & Olsen (2015) identified three consumer segments based on demographics variables, wine knowledge, shopping channel, and ecommerce and social media: (1) Low spenders – least knowledgeable; (2) Moderate spenders – more knowledgeable; and (3) High spenders – very knowledgeable.

Application of projective techniques proved to be an important tool to help participants to talk about the choice of a wine bottle, as cited in Pettigrew & Charters (2008) and Velikova *et al.* (2016). These authors argue that the application of tasting as a projective technique generates a situation that is closer to real consumption and wine evaluation occasion, improving the understanding of consumer choice behaviour. Specially, this technique provides insights into salient external motivations that may help to understand better the participants' choice decisions (Velikova *et al.*, 2016). The three dimensions mentioned in Figure 1 were explored and will be following discussed, according to data triangulation proposed in Table 3.3.

Conceptualisation

The results suggest that SR wine knowledge is associated with the way they think, talk about, and choose wine. In the word association task, the results indicate that the frequency of consumption influences participants' perception of the wine consumption occasion. For example, less knowledgeable participants stated that they consume wine only occasionally or once a year associating the wine concept to a good conversation at dinner/lunch; while the more knowledgeable consume wine frequently and link wine consumption to sensorial pleasure. These findings can be important to wine marketers and are in line with results of Ellis & Caruana (2018).

Product adaption to the market

Regarding the motivations that led consumers to choose a particular wine, more knowledgeable consumers trust their knowledge and thus are less sensitive to information not related to the intrinsic attributes. Thus, this group of participants can be more disposed to brand switching and less loyal to a focal brand, being the region of origin an important attribute, as reported in Madureira & Nunes (2013). As a result, wine marketers may have to work differently to keep these consumers more loyal to their brands comparatively to participants least knowledgeable. Gustafson et al. (2016) showed that high knowledgeable participants did not value wines differently, but consider objective information, such as region of origin and expert rating, as part of the valuation exercise. Furthermore, data source triangulation revealed an interesting finding regarding participants' decision-making process. Despite wine knowledge being related to wine consumption frequency, the context of consumption emerged as an important influencer on choice behaviour. According to Vigar-Ellis et al. (2015) wine connoisseurs are more likely to try new wines comparatively to less knowledgeable. However, the results of the present study indicate that in a tasting context, where social pressure of a bad choice is almost null, the less-knowledgeable participants tend to risk on wine choice. This finding is of the utmost importance as Bruwer, Coode, Saliba, & Herbst (2013) demonstrated that consumers who have an enjoyable and memorable experience in the tasting room tend to purchase the wine again and/or promote the wine brand, thus suggesting an important insight for marketers.

The back label is one of the first sources of information that consumers use to choose a wine without tasting it. Kammer & Rios-Morales (2016) found that wine knowledge is a good predictor for wine labels' understanding. However, participants considered back labels very confusing and difficult to read. Therefore, improvement in terms of design and typography are desirable. Related literature shows that for the least knowledgeable consumers, back labels are very confusing and the choice decision-making process is often empirical or guided by criteria such as the brand. In various moments, novice consumers opt to seek for less objective information such as logo, pictures, awards or colour schemes (Atkin & Johnson, 2010; Kammer & Rios-Morales, 2016). Our results show that the very knowledgeable participants seek information on grape variety, winemaker, and alcohol content, in the back label, while least knowledgeable participants look for food pairing, alcohol content, wine history, and sensory profile. A possible reason for this may be the individual sense of risk. Less knowledgeable consumers may perceive a higher risk associated with the purchase of a

wine bottle (Marques & Guia, 2018). In the same line, Atkin & Johnson (2010) demonstrated that occasional consumers give priority to brand/wine name to assess quality of wine, whereas expert consumers privilege region of origin as a signal of quality. The authors showed that novices consumers after having frequented a basic wine course, appraised wine more objectively and accurately, on the basis of label details, such as grape variety and alcohol content. As result, these findings suggest the need to promote knowledge and education for a better identification of quality through information provided on wine back labels. Ellis & Caruana (2018) also found behavioural differences by wine knowledge. The authors showed that consumers' knowledge can be a useful market segmentation variable directing different marketing activities for each segment. In line with our results, least knowledgeable consumers will respond to brand names and labels that are fun and catchy, while most knowledgeable consumers can represent highly informal, credible information sources, possibly constituting convenient opinion drivers and makers.

Promotion

This research suggests that red wine consumption occurs especially at meals. According to Silva et al. (2016) this results confirm that wine drinking in Portugal is a cultural custom, being highly associated with meals. Further, several authors reported that red wine sensory profile has influence on the consumption moment (Bruwer & McCutcheon, 2017). These results may have important strategic implications for wine marketers for the design of promotional red wine campaigns.

The use of ecommerce and social media has been influencing the way consumers see the wine choice process (Galati et al., 2017). However, the use of digital tools is still a niche among participants. Previous studies by Higgins, Wolf, & Wolf (2014) showed that digital tools are used by a small segment of the wine consumers to aid in their choice decision. In this study, very knowledgeable participants are the ones that most frequently use these tools, such as reported in Thach & Olsen (2015). Again, wine knowledge can help consumers to use digital tools to discuss wine and gather information.

Conclusion

Market positioning is a key driver of success for any product. Understanding wine consumers and the differences between them is essential for the development of marketing strategies that achieve customer satisfaction. Wine marketers must predict how variation in attributes alters consumer perceptions about the multiple benefits of each wine. The aim of this exploratory research was to get a more in-depth understanding about the motivations, attitudes, and behaviour of wine consumers relating the effect of their SR wine knowledge. The methodological approach taken enabled the contact between the consumer and the product, replicating the actual moment of choice. As a result, it was possible to study the way participants think, talk, and choose a red wine bottle.

The SR wine knowledge seems to be a good predictor of behaviour by participants. Very knowledgeable participants consider wine features, consume often, choose and evaluate wine quality based on information such as region of origin, grape variety, and alcohol content. On the contrary, for least knowledgeable participants the consumption moment is very important, they consume occasionally, and they choose and evaluate wine quality based on brand, food pairing, alcohol content, and wine image. Preliminary suggestions indicate that there are motivations, attitudes, and behavioural differences among groups of SR wine knowledge. As such, it is possible that some segments of consumers, less knowledgeable, incorrectly perceive the information provided by labels descriptors, as these are designed for the general public. Although there was some information, regarding which, all participants reported similar opinions, there were important differences in information that determined the choice of wine bottle. This suggests the need to think new marketing campaigns more targeted in their approach. Greater wine education can help consumers identify the specific characteristics of the label descriptors, increasing wine knowledge and self-confidence about wine quality.

As knowledge will never replace experience, the creation of theoretical-practical wine courses can be a good solution for wine marketers and consumers. These courses should trigger the interest for wine consumption, as well as develop the necessary capacities for the consumer to evaluate the information of the label in an objective and precise way. In this context, brands should take care to innovate and surprise the most connoisseurs. Furthermore, clearer and simplified back label is likely to be successful with all consumers. It is acknowledged that further research is required to test the

opinions of the participants through, for example, objective and subjective consumer knowledge and sensory profile using economic experiments.

The focus on consumer knowledge is likely to be relevant to other information-intensive products. The limitation of this research is related with its exploratory nature, precluding the generalization of the results. The purpose of an exploratory analysis is to gain a deeper understanding of a special issue and not to develop generalizable conclusions. The understanding and identification how SR wine knowledge interfere with the process of choosing a wine, provide the necessary understanding to develop a quantitative study, centred on the dimensions found relevant in this study enabling also the study of other products with multiple attributes. Moreover, this paper presents an innovative methodological approach by combining qualitative and quantitative methods, questionnaires and focus groups with projective techniques, in order to provide a context that mimics a real choosing situation.

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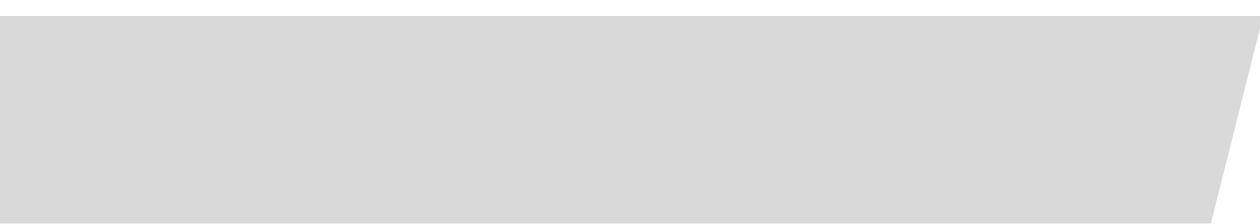
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Chapter 4

4.



Chapter 4. REGION OF ORIGIN AND PERCEIVED QUALITY OF WINE: AN ASSIMILATION -CONTRAST APPROACH

Carla Ferreira | Lina Lourenço-Gomes | Lígia M. Costa Pinto |

The region of origin is one of the most important extrinsic wine cues, encompassing a symbolic and affective role with impacts both on the expected and perceived quality. The main purpose of this paper is to evaluate, in an experimental context, the role of the wine region on the perceived quality of the product itself. Using the assimilation-contrast approach, an experimental set up was designed to elicit consumer preferences through liking score in three different information conditions. Furthermore, the impact of consumers' wine knowledge level on the perceived quality and experienced quality of wine is examined. The results, from a sample of 136 wine consumers, show that for all consumers segments, the most important wine information is the region of region. Moreover, the region of origin affects the sensory profile, the consumer expectations, and the consumer informed liking. In addition, the disagreement between the expected quality and experienced quality, i.e the percentage of dissonance, varies by region of origin. Moreover, the average percentage of dissonance and the moderating effect of information also varies by region, suggesting an association between experienced, expected and perceived quality. These findings show that region of origin may offer a good predictive value of the product, maintaining high consumer expectations. In sum, the results offer interesting possibilities in terms of how to understand the strength of a region as a brand.

Keywords: Assimilation- Contrast approach; quality; region of origin; wine

Introduction

Increased competition between food suppliers, especially in terms of price and product differentiation (Combris, Bazoche, Giraud-Héraud, & Issanchou, 2009) has enhanced the complexity of the consumers' choice task. Product differentiation, in particular, increases the proliferation of options, and consequently, the complexity underlying the choice (Gustafson, 2015). Many variables can affect consumers' choices, especially when buying wine (Masson, Aurier, & D'hauteville, 2008). Compared to other products, consumers' wine choice is more complex (Lockshin & Hall, 2003). It is widely agreed that wine is one of the most differentiated products on the food market, where consumers have to choose from an extended product line with varying objective and subjective characteristics (Lockshin & Corsi, 2012). According to Calvo (2002), perceived quality can be defined as the subjective response to several explicit features of a product and should be seen in relation to the perceptions and expectations of consumers. In this sense, the quality dimension can be defined as a product-specific evaluation assigned by consumers, based on product attributes (Vecchio *et al.*, 2019).

In the case of wine, overall perceived quality is influenced, simultaneously or successively, by sensory cues when the product is tasted, and by non-sensory cues. However, in a purchasing context, the intrinsic cues, such as sensory properties, are seldom available (Masson *et al.*, 2008). The perception of wine quality has been extensively analysed in the literature (Botonaki & Tsakiridou E, 2004; D'Hauteville, Fornerino, & Perrouty, 2007; Steve Charters & Simone Pettigrew, 2007). For instance, Aqueveque (2006) investigated the relationship between two extrinsic cues, experts' cues and price, and the perceived risk in choosing a red wine, suggesting the inclusion of experts' opinion in wine advertising in order to reduce the perception of risk. Similar to environmental or human factors (Van Ittersum, Meulenberg, Van Trijp, & Candel, 2007), the region of origin is one of the characteristics that consumers may assess before consumption and is perceived as related to other product attributes. Perrouty, D'Hauteville, & Lockshin (2006) showed how the region of origin is an extrinsic cue with added value to the consumers. In particular, existing literature supports that the expected quality of wine is strongly associated with the region of origin, which is the main extrinsic cue underlying choice (see for example, Johnson & Bruwer, 2007; Stefani, Romano, & Cavicchi, 2006). Furthermore, the region of origin can play a direct effect in determining consumer behaviour, through the effective linkage

between trust and authenticity (Stefani *et al.*, 2006; Verlegh & Van Ittersum, 2001). For Madureira & Nunes (2013) and Pettigrew & Charters (2006) the influence of information on the region of origin depends on consumer's knowledge level, gender, and economic status. Therefore, evaluating quality through extrinsic cues leads to what has been called "expected quality", whilst "experienced quality" can be assessed only through actual consumption (Steenkamp, 1990). Cohen & Basu (1987) defined expected qualities as the expectations or beliefs regarding the anticipated performance of a product or service. Therefore, consumer liking and acceptability of the product can be influenced by the available information affecting expectations.

Empirical studies have revealed that expected quality and experienced quality may not match, showing differences between blind evaluations and extrinsic cue evaluations (D'Hauteville *et al.*, 2007; Kokthi & Kruja, 2017; Lick, König, Kpossa, & Buller, 2017). In this sense, the present research intends to measure the actual role of the region of origin cue on the experienced, expected, and perceived quality of wine, as well as on the discrepancies between them. Applying the conceptual framework of expectancy disconfirmation (Anderson, 1973; Schifferstein & Mojet, 1999) this study intends to investigate empirically whether there is a dissonance between perceived, expected and experience quality among three Portuguese wine regions with different levels of notoriety and image content. Furthermore, we analyse the influence of the consumer's knowledge level of wine in experienced and perceived quality. One original aspect of this approach is that the perceived quality of intrinsic and extrinsic cues was obtained through a specific experimental design based on hedonic evaluations under different information conditions. The next sections present a summary of the disconfirmation and assimilation contrast theory and the development of the research hypotheses.

Assimilation- Contrast theory

Experienced quality of food product depends on sensory characteristics while perceived quality is in addition influenced by extrinsic cues, on the other hand expected quality depends crucially on extrinsic cues. When a product is consumed, expectation and sensory experiences are combined into a global product evaluation, designated as perceived quality. Different approaches have been used to evaluate food product quality and acceptance: hedonic scores (Bruwer, Saliba, & Miller, 2011; Francis & Williamson, 2015; Lick *et al.*, 2017); incentive compatibles mechanisms

such as auctions (Gustafson, 2015; Lecocq, Magnac, Pichery, & Visser, 2004; Pomarici, Asioli, Vecchio, & Næs, 2018) and a combination of hedonic scores and auctions (Costanigro, Kroll, Thilmany, & Bunning, 2014; Gallardo, Hong, Silva Jaimes, & Flores Orozco, 2018; Lange, Martin, Chabanet, Combris, & Issanchou, 2002; Muller, Lockshin, & Louviere, 2010; Stefani et al., 2006). This conceptual framework is widely applied by marketing managers to study consumer satisfaction and the likelihood of purchase (Kokthi & Kruja, 2017; Teas & Palan, 2003).

Most empirical studies have shown that matching between expected quality, experienced quality and perceived quality is not a rule, and that the size of the discrepancy among expected and perceived quality may determine consumers' final behaviour. Several authors call these discrepancies as "disconfirmation of expectations" (Anderson & Sullivan, 1993; Deliza & MacFie, 1996; Schifferstein, 2001). In this field, Anderson (1973) seminal work, proposed four psychological theories to explain the effect of the difference between the expected quality and the overall perceived product quality: (1) cognitive dissonance (assimilation); (2) contrast; (3) generalized negativity; and (4) assimilation-contrast. Dissonance or assimilation theory, assumes that any discrepancy between expected quality and the perceived quality will be minimized or assimilated by consumers adjusting his evaluation of the product to be more consistent (less dissonant) with his expectations. This theory argues that an unconfirmed expectancy generates a state of dissonance or "psychological discomfort" given that the outcome contradicts the consumers' original hypothesis. Based on this proposition, the extrinsic attributes for a product should substantially lead expected quality above perceived quality. In this case, the consumer receives two perceptions which are psychologically dissonant and attempts to reduce this mental discomfort by changing or distorting one or the two perceptions to make them more consonant. Several criticisms emerged, especially because the theory assumes that the consumer instead of learning from his purchasing mistakes, increases the probability of making them again as he tries to reduce post-purchase dissonance by justification and rationalization of his decisions (Anderson, 1973; Festinger, 1957). Contrast theory, argues that if perceived quality of the product fails to meet the expected quality, the consumer will assess the product less favourably than if he had no prior expectations for it. In this sense, the contrast theory presumes that the surprise effect or the contrast among expectations and evaluation will lead to exaggerate or magnify the disparity. Thus, contrast and assimilation theories predict opposing effects. The third theory is

designated by generalized negativity and it argues that any discrepancy among expected and perceived quality leads to a generalized negative hedonic state, in which the product will receive a more unfavourable rating than if it had coincided with expectations. Following this theory, even if perceived quality exceeds the experienced quality, the product will be perceived as less satisfying than its perceived quality would justify (Anderson, 1973). Finally, the assimilation-contrast theory, as the name implies, combines the theories of assimilation and contrast. This theory suggests that there are zones of acceptance, rejection, and neutrality in consumer perception. Therefore, if the disparity among expected quality and perceived quality is sufficiently small to fall into the zone of acceptance, the consumers tend to assimilate the difference, rating the product more in line with expected quality than with perceived quality (assimilation effect). On the other hand, if discrepancy among expected quality and perceived quality is too large that it falls into zone of rejection, the consumer will tend to increase the perceived disparity among expected and perceived quality (contrast effect). Thus, an assimilation or contrast effect arises as a function of the relative disparity among expected and perceived quality.

Testing the proposed four theories requires the elicitation of perceived, experienced and expected quality. According to Schifferstein (2001) there are three ways to elicit sensory and non-sensory quality preferences depending on the information set available: blind test liking score (B – experienced quality: no information); expectation test liking score (E- expected quality: provision of non-sensory information) and full information test liking score (F-perceived quality: provision of non-sensory and sensory information). The difference between perceived quality and expected quality is designated as *degree of disconfirmation*; if expected quality is compared to experienced quality the *degree of incongruence* can be computed. Finally, comparing the perceived quality with experienced quality, the *degree of response shift* is computed. Schifferstein (2001) proposes the analysis of *ratio α* , equal to the degree of response shift over the degree of incongruence, translating the assimilation effect. The assimilation-contrast theory can be interpreted as a mechanism by which the individuals try to adapt psychologically to their environment (Fornerino & D’Hauteville, 2010). Table 4.1 summarises the different assimilation and contrast effects. Assimilation is absent (α equal to zero) when there is no discrepancy between expected quality and perceived quality. On the other hand, there is an assimilation effect (positive or negative) whenever that change of perceived

quality is in the same direction of expected quality; while contrast effect (positive or negative) occurs when the change of perceived quality moves in the opposite direction of expected quality (Kokthi and Kruja, 2017).

Table 4.1- Assimilation and Contrast effects

| Perception (Information conditions) | Assimilation | | | Contrast | |
|---|---------------------|---------------------|--------------------------|----------|----------|
| | Partial Positive | Partial Negative | Complete Assimilation | Positive | Negative |
| Expected quality – Experienced quality (E-B) | >0 | <0 | >0 | >0 | <0 |
| Perceived quality – Experienced quality (F-B) | >0 | <0 | >0 | <0 | >0 |
| Perceived quality – Experienced quality (F-E) | <0 | >0 | 0 | >0 | <0 |

Notes: **B** -Blind test liking score; **E** -Expectation test liking score; **F** -Full information test liking score

Source: Fornerino & D’Hauteville (2010)

In case of wine evaluation, a poor perception of a region of origin may change the perceived quality, comparatively to the score obtained in a blind tasting (D’Hauteville *et al.*, 2007; Festinger, 1957). Faced with an actual wine choice situation, consumers are usually exposed to non-sensory information (brand, region of origin, grape variety, alcohol content) before trying the wine itself. Assimilation-Contrast theory assumes that extrinsic cues, such as region of origin or brand, create an expected quality for individuals, which is then challenged by the perceived quality (Anderson, 1973). For instance, an unknown region of origin or brand can generate a pleasant surprise after tasting, creating a contrast effect. Contrariwise, a poor perceived quality with a well-known brand or region of origin can create a feeling of disappointment in relation to expected quality (D’Hauteville *et al.*, 2007; Helson, 1964).

Several authors suggest the degree of response shift as a promising measure to explore the direct impact of an extrinsic cue such as region of origin or brand on product evaluation (Fornerino & D’Hauteville, 2010; Kokthi & Kruja, 2017; Stefani *et al.*, 2006). The literature highlights that the wine region of origin can affect consumer evaluation in two different ways, as a quality cue and due to its symbolic or affective role (Stefani *et al.*, 2006). Furthermore, choosing a wine requires knowledge

to interpret the information provided. As the wine knowledge increases, the role that attributes or quality cues play in buying decisions may evolve (Ellis & Caruana, 2018; Forbes, Cohen, & Dean, 2008; McClung, Freeman, & Malone, 2015; Vigar-Ellis, Pitt, & Caruana, 2015).

The aim of the study

The main aim of this paper is to analyse the influence of the region of origin on the experienced, expected and ultimately perceived quality of wine. Furthermore, this study intends to investigate whether consumers' level of wine knowledge affects the experienced and perceived quality. For this, three Portuguese wine regions were compared representing different levels of notoriety as suggested by a previous qualitative study (Ferreira, Lourenço-Gomes, Pinto, & Silva, 2019).

Applying the assimilation-contrast theory to analyse the expected quality of a region of origin and therefore its strength (D'Hauteville *et al.*, 2007; Kokthi & Kruja, 2017; Stefani *et al.*, 2006), we formulated the following research hypotheses:

- a. The sensory perception of a wine is influenced by the knowledge of the region of origin;
- b. The region of origin significantly affects the experienced quality;
- c. The region of origin significantly affects the expected quality;
- d. The region of origin significantly affects the perceived quality;
- e. The region of origin significantly affects the differences between expected quality and experienced quality;
- f. The region of origin significantly affects differences between perceived quality and experienced quality;
- g. The consumers' wine knowledge type significantly affects experienced and perceived quality.

To test the hypotheses, hedonic scores under different information conditions were gathered: (1) blind tasting (evaluates the intrinsic features of wine and provides a measure of experienced quality); (2) the evaluation of region of origin information (measure of expected quality based on a wine region); and (3) wine tasting under full information (measure of perceived quality).

Materials and Methods

Experimental procedure

Following the approach proposed by D’Hauteville *et al.* (2007), Kokthi & Kruja (2017), and Stefani *et al.* (2006), the hedonic scores were elicited within an experimental design replicated over six sessions (Figure 4.1).

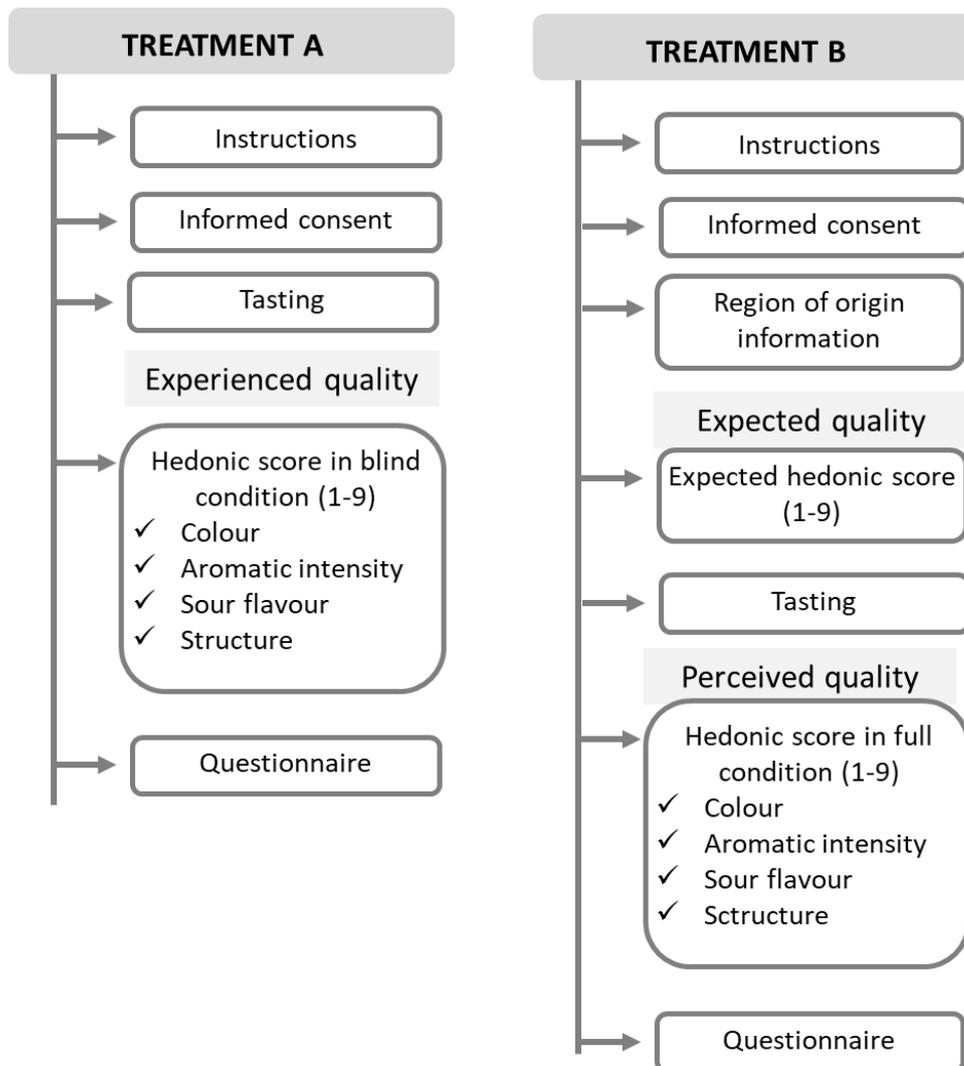


Figure 4.1- Summary of experimental protocol

Wines from three Portuguese wine regions (Douro, Dão and Alentejo) were evaluated under different information conditions (blind evaluation; region informed evaluation; full information). In each session, two treatments were carried (Treatment A and B). Each participant took part in only one treatment. The procedure started with a brief explanation of the research goals and tasks to be performed. In case of agreement, the participant signed a consent form and was endowed with a gift card as an incentive. In order to minimize session effects, the instructions were read aloud by

the same experimenter in all sessions. Each wine sample (30 mL) was served in standard glasses and identified with a three-digit code randomly assigned. A Williams' latin square design was employed to avoid first position distortions and possible carry over effects (Kokthi & Kruja, 2017). The full set of six possible combinations was used. In treatment A – blind treatment, participants were asked to evaluate the wines on a hedonic scale graded from 1 to 9 (dislike extremely to like extremely). Furthermore, they were invited to evaluate some intrinsic wine attributes (colour, aromatic intensity, sour flavour, and structure) for each wine sample.

In Treatment B- informed treatment, participants received information about the region of origin and the expectation test liking score was obtained. Then, participants were invited to taste each wine and to evaluate it in the full information condition. Participants were also asked to assess intrinsic attributes as in treatment A.

Finally, both treatments included a questionnaire to collect information regarding purchase and consumption behaviours, socio-demographic, and level of wine knowledge.

Selection of wine and region of origin

According to International Organisation of Vine and Wine, in 2018, Portugal was the 11th largest wine producer and the 12th largest consumer in the world. Its 13 wine regions exhibit different geomorphological characteristics, producing very distinctive wines, both sensory and chemically. Furthermore, in 2018, 62% of still wine consumed in Portugal was red wine (IVV, 2018). Applying the focus groups technique combined with a tasting session, Ferreira *et al.* (2019) found that consumers have different perceptions regarding Portuguese wine-producing regions, where Douro, Dão, and Alentejo were the most frequently chosen.

Comparing the market share (in volume and value) of still wines by the thirteen Portuguese wine regions, in 2018 (**Erro! A origem da referência não foi encontrada.**), Alentejo and Douro regions were the most important contributors for total sales in value. However, the Douro region contributed significantly less for total

sales in volume. Following (Justin Cohen & Cohen, 2011) to avoid taste saturation, only three wines were selected, one from each region (Douro, Dão and Alentejo).

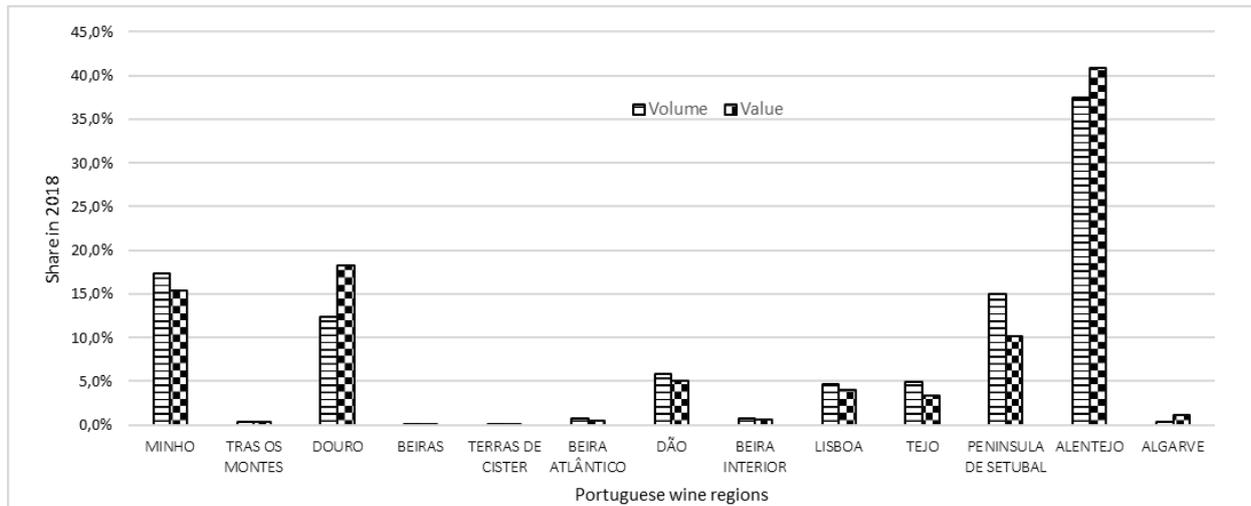


Figure 4.2- Market share (in volume and value) of still wines by thirteen Portuguese wine regions, 2018

Source: IVV (2018)

Participants

One hundred and thirty-six red wine consumers living in different Portuguese wine regions of origin participated in this study. A consulting firm recruited the participants, based on the following criteria: (1) Portuguese native speakers; (2) to have a good general state of health (self-reported); (3) to have some experience in choosing wine; (4) regular still wine consumers; and (5) to have 35 or more years old (according to Bruwer, Li, & Reid (2002), and Wolf, Carpenter, & Qenani-Petrela (2005), older consumers have more experience choosing and consuming red wine). Beyond the hedonic scores elicited during experiments, some consumers' characteristics were also collected, following previous studies on wine consumer behaviour (Vigar-Ellis, Pitt, & Caruana, 2015). These included: *i*) socio-demographics; *ii*) wine consumption and purchasing habits; *iii*) objective knowledge; *iiii*) subjective knowledge. The Forbes, Cohen, & Dean, (2008) test was used in order to identify objective knowledge (Table 4.2 reports the specific questions posed, the alternative answers, identifying with italics the correct option). An eight-item measure of Flynn & Goldsmith (1999) was used to assess subjective knowledge, and the two six-item measures proposed by Flynn, Goldsmith, & Eastman (1996) were applied for opinion leadership and opinion seeking.

Table 4.2- Objective wine knowledge test

| Question | Answer choice (correct choice in italics) |
|--|---|
| Which of the following is a grape of red wine? | Alvarinho Chardonnay <i>Touriga Nacional</i> Loureiro Don't know |
| A peppery character is most associated with which wine? | Merlot <i>Shiraz/Syrah</i> Semillion Pinot Noir Don't know |
| Which is not a famous French wine region? | Bordeaux Champagne <i>Rheingau</i> Alsace Don't know |
| Which is the most appropriate designation for port wine? | Still wine <i>Fortified wine</i> Sparkling wine Late Harvest wine Do not know |
| In 2017, which was the largest producer (in quantity) of wine at European level? | Spain Portugal <i>Italy</i> France Do not know |

Data analysis

Participants' characterization

Participants' characteristics were analysed using univariate descriptive statistics for socio-demographics, wine consumption and purchasing habits, self-reported knowledge, subjective knowledge, opinion leadership, and opinion-seeking behaviour. For objective knowledge a single score of individuals was determined depending on whether participants answered correctly or not the five multiple-choice items that make up the scale. To investigate the psychometric properties of these measures, a principal component factor analysis with a varimax rotation was performed (Ellis & Caruana, 2018; Flynn & Goldsmith, 1999). In order to classify the wine knowledge types, median splits for objective and subjective knowledge measures were determined. Participants with scoring above the median on each measure were classified as "high" while the other participants were classified as "low" (Ellis & Caruana, 2018). The resulting four consumer wine knowledge types were identified labelled as show in Figure 4.3.

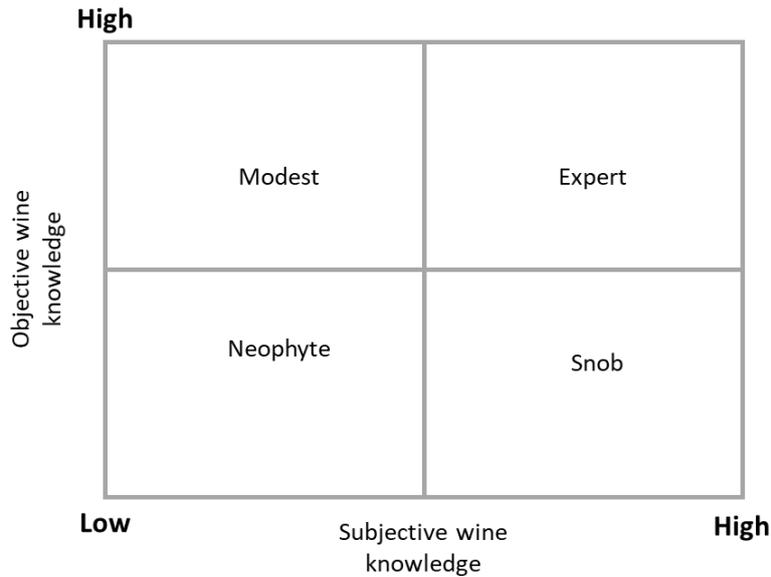


Figure 4.3- Wine knowledge types

Source: Adapted from Ellis & Caruana (2018)

Hedonic evaluation

To explore the direct impact of the region of origin, we analysed the difference between the evaluation of intrinsic cues (colour, aromatic intensity, acid taste, and structure) and between hedonic scores for each wine. To interpret how hedonic score was affected by region of origin information several indicators were calculated, according to Table 4.3.

Table 4.3- Hedonic score differences tested

| Indicators | Application | Data analysis |
|---|--|--|
| Expected quality – Experienced quality | Expectation test liking score (E) - Blind test liking score (B) | <ul style="list-style-type: none"> • It is calculated to identify the effect of region of origin information on consumers preferences. • There are effects of region of origin on consumers preferences if $E - B > 0$ |
| Perceived quality – Experienced quality | Full information test liking score (F) - Blind test liking score (B) | <ul style="list-style-type: none"> • It is calculated to identify if there is assimilation or contrast effect • It shows to what extent product information (region of origin + sensory test) affects hedonic scores. |

| | | |
|---|--|---|
| Perceived quality – Expected quality | Full information test liking score (F) - Expectation test liking score (E) | <ul style="list-style-type: none"> • It is calculated to identify if assimilation is partial or full; • There is complete assimilation if F-E=0. |
| Assimilation coefficients (α) | $\alpha = \frac{\text{Perceived quality} - \text{Experienced quality (F - B)}}{\text{Expected quality} - \text{Experienced quality (E - B)}}$ $0 \leq \alpha \leq 1$ | <ul style="list-style-type: none"> • if $\alpha < 0,5$, then sensory features are the most important in the product evaluation; • if $\alpha > 0,5$ region of origin is preferable to sensory features. |
| Dissonance effect (DI) | $DI(\%) = \frac{\text{Expected quality} - \text{Experienced quality (E - B)}}{\text{Experienced quality (B)}} * 100$ | <ul style="list-style-type: none"> • It measures the distance among expected quality and experienced quality as a percentage from the baseline outcome experienced quality |
| Moderating effect of information (MI) | $MI(\%) = \frac{\text{Perceived quality} - \text{Experienced quality (F - B)}}{\text{Experienced quality (B)}} * 100$ | <ul style="list-style-type: none"> • It measures the average effect of information, as a percentage from the experienced quality on the perceived quality |

Furthermore, we investigate the impact of consumers' knowledge level on experienced and perceived quality. For this, a Kolmogorov-Smirnov test was performed to test the statistical significance of positive and negative differences between the blind test liking score (experienced quality) and the full information test liking score (perceived quality). Statistically significant differences were signalled at the confidence level of 95%.

Findings

Sample description

Participants' profile is reported in Table 4.4. Concerning the socio-demographic characteristics, participants' mean age was 44,3 years (SD=8,63 years), 52% of participants were women, household average size (over 18 years old) was 2,27 individuals (SD=1,13), 87% stated to have a higher education level and 43% earn a monthly household income between 581€ and 1 500€. Regarding the purchasing and consumption behaviour, 49% of participants drink wine several times per week, 77 % stated to buy mainly wine from the Douro region, and 50% stated to spend 4,99€ per week on wine. The majority (74%) prefers the supermarket to buy wine. Comparing participants' profile between treatment A and B, at a significance level of 5%, there

are no significant statistical differences for all variables, except for monthly purchasing of wine. It is thus possible to compare treatment effects between the two groups.

Table 4.4- Participants' profile description

| | Relative Frequency | | | <i>p-value</i> |
|---|------------------------|-----------------------|-------|----------------|
| | Treatment A (N= 71) | Treatment B (N=65) | Total | |
| Gender | | | | 0,128 |
| Women | 57,7 | 44,6 | 51,5 | |
| Men | 42,3 | 55,4 | 48,5 | |
| Education level | | | | 0,407 |
| 5-9 years | 2,8 | 1,5 | 2,2 | |
| 10-12 years | 12,7 | 9,2 | 11 | |
| Higher Education | 84,5 | 89,2 | 86,8 | |
| Household monthly income | | | | 0,100* |
| < 580 € | 0 | 3,1 | 1,5 | |
| 581 €- 1 500 € | 42,3 | 44,6 | 43,4 | |
| 1501 € - 2 500 € | 33,8 | 27,7 | 30,9 | |
| 2501 € - 3 500 € | 18,3 | 16,9 | 17,6 | |
| 3501 € - 4 500 € | 1,4 | 7,7 | 4,4 | |
| > 4 501 € | 4,2 | 0 | 2,2 | |
| Wine consumption frequency | | | | 0,075* |
| Never | 4,2 | 4,6 | 4,4 | |
| Once | 28,2 | 38,5 | 33,1 | |
| Several times | 47,9 | 49,2 | 48,5 | |
| Every day | 19,7 | 7,7 | 14 | |
| Wine region of origin that most buys | | | | 0,696 |
| Verdes | 1,4 | 3,1 | 2,2 | |
| Douro | 78,9 | 75,4 | 77,2 | |
| Dão | 8,5 | 7,7 | 8,1 | |
| Lisboa | 2,8 | 1,5 | 2,2 | |
| Alentejo | 8,5 | 12,3 | 10,3 | |
| Monthly purchasing of wine (bottle) | | | | 0,047** |
| 1 or less | 36,6 | 49,2 | 42,6 | |
| 2 to 3 | 33,8 | 35,4 | 34,6 | |
| 4 or more | 29,6 | 15,4 | 22,8 | |
| Weekly spending of wine | | | | 0,161 |
| ≤ 4,99 € | 45,1 | 55,4 | 50 | |
| 5,00 € - 9,99 € | 39,4 | 33,8 | 36,8 | |
| 10,00 € -14,99 € | 5,6 | 6,2 | 5,9 | |
| 15,00 € -49,99 € | 8,5 | 4,6 | 6,6 | |
| ≥ 50,00 € | 1,4 | 0 | 0,7 | |
| Place of Purchase | | | | 0,097* |
| Hypermarket | 71,8 | 75,4 | 73,5 | |
| Wine Store | 11,3 | 13,8 | 12,5 | |
| Producer | 16,9 | 10,8 | 14 | |

Notes: *** $p < 0,001$; ** $p < 0,05$; * $p < 0,1$

To classify participants into the four types of wine knowledge proposed by Ellis and Coruana (2018), we first investigate the validity of the measures of the 20 items making up the three constructs in analysis (subjective knowledge, opinion leadership and opinion seeking) through a principal components factor analysis by applying a varimax rotation. Table 4.5 shows as each item is loaded separately and distinctively

onto four factors. Two items for the opinion leadership measures and one item for the subjective knowledge were excluded to improve the model robustness, and increased the explained variance to 68%.

Table 4.5- Results of principal components factor analysis followed by varimax rotation

| | Components | | | |
|--|------------|-------|-------|-------|
| | 1 | 2 | 3 | 4 |
| (1) I feel quite knowledgeable about wine | 0,848 | | | |
| (2) Among my friends, I am one of the 'experts' on wine | 0,790 | | | |
| (4) I know pretty much about wine | 0,724 | | | |
| (5) I do not feel very knowledgeable about wine (R) | 0,720 | | | |
| (7) When it comes to wine, I really do not know a lot (R) | 0,714 | | | |
| Cronbach's α | 0,99 | | | |
| (16) I do not need to talk to others before I buy a wine | | 0,820 | | |
| (17) I rarely ask other people what wine to buy | | 0,809 | | |
| (15) When I consider buying wine I ask other people for advice (R) | | 0,753 | | |
| (18) I like to get others' opinions before I buy a wine (R) | | 0,704 | | |
| (20) When choosing wine, other people's opinions are not important to me | | 0,659 | | |
| Cronbach's α | | 0,89 | | |
| (9) My opinion on wine seems not to count with other people | | | 0,885 | |
| (10) When they choose a wine, people do not turn to me for advice | | | 0,760 | |
| (11) Other people rarely come to me for advice about choosing wine | | | 0,667 | |
| (6) Compared to most other people, I know less about wine | | | 0,560 | |
| Cronbach's α | | | 0,86 | |
| (13) I often persuade other people to buy the wine that I like | | | | 0,874 |
| (14) I often influence other people's opinions about wine | | | | 0,870 |
| (12) People that I know pick wine based upon what I have told them | | | | 0,717 |
| Cronbach's α | | | | 0,84 |

The findings indicate a cross loading for item six of Flynn & Goldsmith (1999) proposed measure. In other words, the item related to the opinion leadership is placed on the subjective knowledge measure. This result can be explained by the relationship between the two measures, as subjective knowledge involves opinion seekers. Vigar-Ellis *et al.* (2015) also found cross loading among factors and items with poor loading. The results show a division of the opinion leadership measure into two constructs, with a leading opinion relationship, the negative opinion leader and the positive opinion leader. However, the computation of Cronbach alpha supports the convergent and discriminant validity of the constructs (the Cronbach alpha score for all measures exceed 0,7, providing support for internal consistency, as stated by Nunnally (1978)).

Regarding the measurement of objective wine knowledge, each question was evaluated as either correct (1 mark) or incorrect (0 mark). The scores for the objective knowledge ranged from 0 to 5, with an average value of 2,60 (SD=1,06). Based on the marks the sample was split into four segments using subjective and objective knowledge results of participants, according to the Figure 3. This resulted in 93 of the participants being classified as “Neophytes” (low subjective-low objective), 25 as “Modest” (low subjective-high objective), 14 as “Snobs” (high subjective- low objective), and only 4 as “Experts” (high subjective-high objective).

Regarding the importance of information on consumers’ choice (Costanigro *et al.*, 2014; Gustafson, 2015), Table 4.6 reports the results by consumers’ knowledge type. For all consumers segments, the most important wine information is the region of region. Environmental certification appears as indifferent for all knowledge types. Neophytes give more importance to front label design and medals/awards, while Experts ascribe more importance to information as grape variety, winemaker, quality price ratio, recommendation, previous experience and brand. Comparing the Modest with Snobs, Snobs give more attention to the quality-price ratio, alcohol content, wine history, brand, and front label design. Moreover, the distribution of the importance of information across knowledge types is statistically different (p-value <0,05) for bottle shape, wine history, winemaker, brand and medals/awards. In general, these results corroborate those in the literature for the four wine knowledge types (Ellis & Thompson, 2018; Vigar-Ellis *et al.*, 2015).

Table 4.6- Mean importance score of information seek by consumers’ knowledge type

| | Mean score | | | | Kruskal-Wallis test <i>p-values</i> |
|-----------------------------|--------------------------|--------|-------|---------|--|
| | Consumers knowledge type | | | | |
| | Neophytes | Modest | Snobs | Experts | |
| Region of origin | 6 | 6 | 6 | 6 | 0,406 |
| Sensory profile | 5 | 5 | 5 | 5 | 0,426 |
| Food pairing | 5 | 5 | 5 | 5 | 0,446 |
| Environmental certification | 4 | 4 | 4 | 4 | 0,051* |
| Grape variety | 3 | 5 | 5 | 6 | 0,444 |
| Front label design | 6 | 3 | 4 | 3 | 0,132 |
| Bottle form | 5 | 4 | 4 | 3 | 0,024** |
| Wine history | 4 | 4 | 5 | 5 | 0,000*** |
| Winemaker | 3 | 5 | 5 | 6 | 0,000*** |
| Brand | 4 | 5 | 6 | 6 | 0,005** |
| Medals/awards | 6 | 5 | 5 | 4 | 0,038** |
| Quality-price ratio | 5 | 5 | 6 | 6 | 0,703 |
| Recommendation | 5 | 5 | 5 | 6 | 0,445 |
| Alcohol content | 4 | 4 | 5 | 5 | 0,271 |

| | Mean score | | | | Kruskal-Wallis test <i>p-values</i> |
|---------------------|--------------------------|--------|-------|---------|--|
| | Consumers knowledge type | | | | |
| | Neophytes | Modest | Snobs | Experts | |
| Qr code | 3 | 4 | 4 | 4 | 0,051* |
| Previous experience | 5 | 5 | 5 | 6 | 0,659 |

Importance level on a scale of one to seven with one equal to *No at all important* and seven equal to *Extremely important*; *** p<0,001; **p<0,05; *p<0,1

Impact of origin region on Hedonic score

In order to assess the impact of region of origin on the scores ascribed by participants to the features colour, aromatic intensity, acid taste, structure, and hedonic scores in two information conditions (blind tasting and full information) an unpaired test for between means (Z- Wilcoxon test) was performed (Table 4.7) . Results show that, in general, participants value more the wine attributes when they have previous knowledge about the region of origin (Treatment B) than in the blind information condition (Treatment A).

Table 4.7 – Mean values of hedonic scores with blind tasting (Treatment A) and with full information (Treatment B) for the three wines

| Attributes | Region of origin | | |
|--|------------------|----------|--------|
| | Douro | Alentejo | Dão |
| Colour A | 3,68 | 3,18 | 3,65 |
| Colour B | 3,57 | 3,54 | 3,74 |
| Colour B-Colour A | -0,11 | 0,36** | 0,09 |
| Aromatic intensity A | 3,21 | 3,18 | 3,35 |
| Aromatic intensity B | 3,49 | 3,43 | 3,48 |
| Aromatic intensity B- Aromatic intensity A | 0,28** | 0,25 | 0,13 |
| Acid taste A | 3,18 | 3,54 | 3,28 |
| Acid taste B | 3,40 | 3,25 | 3,3 |
| Acid taste B-Acid teste A | 0,22 | -0,29* | 0,02 |
| Structure A | 3,27 | 3,18 | 3,38 |
| Structure B | 3,35 | 3,28 | 3,31 |
| Structure B-Structure A | 0,08 | 0,1 | -0,07 |
| Hedonic score A | 6,55 | 5,96 | 6,18 |
| Hedonic score B | 6,82 | 6,89 | 7 |
| Hedonic score B- Hedonic A | 0,27* | 0,93** | 0,82** |
| Nº Obs. Treatment A | 71 | 71 | 71 |
| Nº Obs. Treatment B | 65 | 65 | 65 |

Attribute A = score attribute mean with blind tasting; Attribute B= score attribute mean with full information. ***Statistically significant at p-value<0,01; **Statistically significant at p-value<0,05; *Statistically significant at p-value<0,1

For the four intrinsic attributes under evaluation, statistically significant differences were found for colour and acid taste (Alentejo wine) as well as aromatic intensity (Douro wine). Intrinsic attributes such as colour, acidity, and structure were perceived differently, depending on the region of origin (Table 4.7).

Comparing the means of hedonic scores by treatment and by region of origin, there is a valorisation of all regions (Table 4.7). In blind tasting (treatment A), consumers assign the highest mean hedonic score to Douro wine. However, in complete information condition, the Dão wine achieved the highest mean hedonic score. The greatest difference was found for Alentejo wine. These differences are statistically significant for Alentejo and Dão wine at p value $< 0,05$. Probably these results are based in the general idea among wine Portuguese consumers of an overvalued Alentejo wine region, as well as Dão wine region. According to IVV (2018), in volume, the Alentejo wines were the most consumed in Portugal, representing 37,4 % of total sales, 73,1% through retail channel. On the other hand, for Douro wine, the differences were not statistically significant between both treatments (at a significance level of 5%). Consumers follow the same hedonic assessment with or without region of origin information. In 2018, Douro wine represented 12,4 % of total sales, in volume, mainly (68%) in restaurants (IVV, 2018). The hypothesis that sensory perception of the wine is influenced by the knowledge of the region of origin was supported by the results, supporting the need of blind tasting in hedonic evaluation in order to avoid individuals' assumptions about the quality of the products (Caporale, Policastro, Carlucci, & Monteleone, 2006; Siret & Issanchou, 2000; Stolzenbach, Bredie, Christensen, & Byrne, 2013).

Assimilation and Contrast effects

To test the assimilation and contrast effects six indicators were computed: Expected quality – Experienced quality; Perceived quality – Experienced quality; Perceived quality – Expected quality; Assimilation effect (α); Moderating effect of information (MI); and Dissonance effect (DI). According to the results reported in Table 4.8, a statistically significant difference between expected quality and experienced quality was found for the three regions of origin. In other words, the score of expected quality was slightly above the experienced quality in blind tasting,

indicating the non-confirmation of expectations for each wine tested and region of origin effect on consumers preferences.

The mean of disagreement between the expected quality and experienced quality was higher for Alentejo wine, with a dissonance (DI) value of 24%. On the other hand, for Douro wine the mean of dissonance value is only 7%. Thus, the information about region of origin is important during the choice moment, but the effect is not the same for all regions of origin. These findings are in line with the results reported in Stefani *et al.* (2006), D'Hauteville *et al.* (2007) and Masson *et al.* (2008).

The results show that the difference between perceived quality and experienced, the effect of assimilation or contrast, is significant and positive for the three wines under study (Stefani *et al.*, 2006).

Table 4.8 (Table 4.8). The region of origin affects the overall wine evaluation increasing the mean of liking ratings. Especially, for Alentejo wine, the information about the region of origin leads to a 16% increase on experienced quality. Thus, the findings suggest that there is assimilation effect for the three regions of origin under analysis. The results notice statistically significant differences between full information conditions and expectation evaluation (Table 4.8).

For the three wines, the liking scores decreased in full information conditions, showing that the product did not meet the expectations. This effect is greatest for Alentejo wine, given to be the least sensorially appreciated. In this sense, it is observed a positive partial assimilation or negative disconfirmation of expectations for three regions of origin. These findings suggest that the wines are less tasty compared with the average participants expectancy, probably because participants expected better, given some recognized qualities of the region, as explained by Lange *et al.* (2002).

Regarding the assimilation coefficients (α), all the three wines reported a coefficient higher than 0,5, indicating the predominant effect of region of origin on the overall evaluation of the wine. Overall results confirm that perceived quality depends on the expectation of the region of origin, as reported by Kokthi & Kruja (2017) and Vecchio *et al.* (2019). Furthermore, these results confirm the empirical evidence found

in previous research that sensory cue by itself is not a discriminative of consumers' evaluation (Stefani et al., 2006).

Table 4.8- Computed indicators by region of origin

| Indicators | Region of origin | | |
|---|-------------------------------|-------------------------------|-------------------------------|
| | Douro | Alentejo | Dão |
| Expected quality – Experienced quality | 0,45*** | 1,44*** | 1,22 *** |
| Perceived quality – Experienced quality | 0,27* | 0,93** | 0,82*** |
| Perceived quality – Expected quality | -0,18*** | -0,51*** | -0,40 ** |
| Assimilation coefficients (α) | 0,60 >0,5 | 0,65 >0,5 | 0,67 >0,5 |
| Moderating effect of information (%) | 4 | 16 | 13 |
| Dissonance effect (%) | 7 | 24 | 20 |
| Assimilation/Contrast effect | Partial Positive Assimilation | Partial Positive Assimilation | Partial Positive Assimilation |

***Statistically significant at p-value<0,01; (z-Wilcoxon test)

The assimilation-contrast theory helps to understand the differences that may exist in terms of the strength of the region of origin on the wine market (Vecchio *et al.*, 2019). Based on this theory, the results suggest that if disparity between expected quality and perceived quality is sufficiently small to fall into the zone of acceptance, the consumers tend to partly assimilate the difference. Therefore, the hypotheses that region of origin significantly affects experienced, expected, and perceived quality were supported. Also, these results confirm that region of origin significantly affects differences between expected quality and experienced quality; and the differences between perceived quality and experienced quality.

Impact of wine consumers' knowledge type on experienced and perceived quality

In order to investigate the impact of wine consumers' knowledge type on experienced quality (EQ) and perceived quality (PQ), a Kolmogorov-Smirnov test was performed comparing EQ and PQ across knowledge types Neophytes, Modest and Snobs, results for Experts are not reported as only one subject fell in this category.

Table 4.9 shows that only Neophytes consumers present statistically significant differences between experienced quality and perceived quality. Comparing the hedonic score distribution for the three wines, statistically significant differences were found only for the Alentejo wine. The results indicate that this group ascribes higher hedonic scores for Alentejo wine in blind tasting (experienced quality). Following the distinctions discussed by Ellis & Caruana (2018) for the different consumer knowledge types, Neophytes know they know very little about wine, but like to consume wine. A basic product with low prices and intensively distributed will likely be the most sought by this segment of consumers. Thus, a probable reason for the results obtained is familiarity of the consumers to certain sensorial profile, responding more to brands than to the region of origin. In this context, the hypothesis that wine consumers' knowledge type has significant effects on experienced and perceived quality was partially verified.

Table 4.9- Distributions of hedonic scores by consumer knowledge type between two informational treatments (blind tasting and complete information)

| Consumer knowledge type ¹ | Region of origin | Hypotheses ² | Kolmogorov-Smirnov Z (p-values) |
|--------------------------------------|------------------|-------------------------|---------------------------------|
| Neophytes | Douro | hs(EQ)<hs(PQ) | 0,976 |
| | | hs(EQ)>hs(PQ) | 0,644 |
| | Alentejo | hs(EQ)<hs(PQ) | 0,008** |
| | | hs(EQ)>hs(PQ) | 1,000 |
| | Dão | hs(EQ)<hs(PQ) | 0,990 |
| | | hs(EQ)>hs(PQ) | 1,00 |
| Modest | Douro | hs(EQ)<hs(PQ) | 0,826 |
| | | hs(EQ)>hs(PQ) | 0,877 |
| | Alentejo | hs(EQ)<hs(PQ) | 0,476 |
| | | hs(EQ)>hs(PQ) | 1,000 |
| | Dão | hs(EQ)<hs(PQ) | 0,168 |
| | | hs(EQ)>hs(PQ) | 1,000 |
| Snobs | Douro | hs(EQ)<hs(PQ) | 0,743 |
| | | hs(EQ)>hs(PQ) | 0,953 |
| | Alentejo | hs(EQ)<hs(PQ) | 0,898 |
| | | hs(EQ)>hs(PQ) | 0,953 |
| | Dão | hs(EQ)<hs(PQ) | 0,898 |
| | | hs(EQ)>hs(PQ) | 0,497 |

**Statistically significant at $p\text{-value} < 0,05$; *Statistically significant at $p\text{-value} < 0,1$

¹The expert knowledge consumer group is composed of only one individual, thus the group is absent from the table.

²EQ=Experienced quality; PQ=Perceived quality

Conclusion

The region of origin of food products influences consumer valuation in two different ways. First, region of origin can act as a quality cue to other features of the good. On the other hand, region of origin can affect the liking of food through its symbolic or affective role. These influences are especially important for wine as it is an information intensive product offering multidimensional decision challenges for consumers. Understanding the strength of region of origin on perceived quality of wine, and how it varies across market segments is essential for the design of successful marketing strategies. In this context, the present study investigates the role of region of origin information on consumers' liking regarding three red still wines based on assimilation/contrast approach. In addition, it analyses the effect of information by consumer's wine knowledge type. To this end, a specific experimental design was applied based on hedonic evaluations under different information conditions.

Empirical evidences reveal the impact of region of origin on consumers' preferences. The region of origin affects both the sensory profile, consumer expectations, and consumer informed liking. Statistically significant differences between expected quality and experienced quality and between perceived quality and experienced quality were observed for the three regions of origin. Additionally, the assimilation coefficient indicated a predominant effect of region of origin on the overall evaluation of the three wine.

Thus, these findings support the relationships formulated between expected quality of region of origin and its market strength . On average, the percentage of dissonance is higher for Alentejo region of origin, where mean liking increased 16%. In the full information condition, participants decreased hedonic rating of all regions of origin, especially for Alentejo. On the other hand, the average dissonance percentage and moderating effect of information were lower for Douro region of origin. Clearly the Alentejo region has a brand in the market that leads to higher consumer expectations. On the other hand, for other regions, such as Dão, investments

should go to brand construction. The results of this study are in line with previous studies revealing the region of origin as an important quality cue at moment of choice, where the degree of familiarity with region of origin can play a positive effect on liking (both expected and informed). Moreover, the paper sheds light on the role of origin region in moderating the impact of experienced quality on consumers' preferences. In particular, it emerged that each region of origin is perceived in a different way according to its strength in wine market. In light of this, intensive advertising and communication strategies can help to enhance the region of origin as a brand in the market thus improving the perceived quality of its wine.

Moreover, this study shows that consumers' knowledge provides a useful basis for segmenting the wine market. Thus, wine marketers should invest on the characterization of consumers' of choice behaviour for each wine consumer segments. The region of origin arises as an extrinsic cue of quality sought by all segments of the consumers. The Neophytes segment shows hedonic sensitivity to positively evaluate a known sensory profile. However, further research is required to test the responses of the segments to other marketing mix variables.

Thus, several practical implications derive from these findings. Wine producers should carefully transmit the information and the specific product features, both in terms of sensory profile and in terms of market reputation. Moreover, wineries could run information campaigns to communicate differences in sensory profile between regions of origin. In future research, it is crucial to investigate more deeply the peculiar sensory attributes that influence wine consumer preferences. This line of research would provide wine producers with practical information about cues that affect the perceived quality of their wines and specifically target consumer segments.

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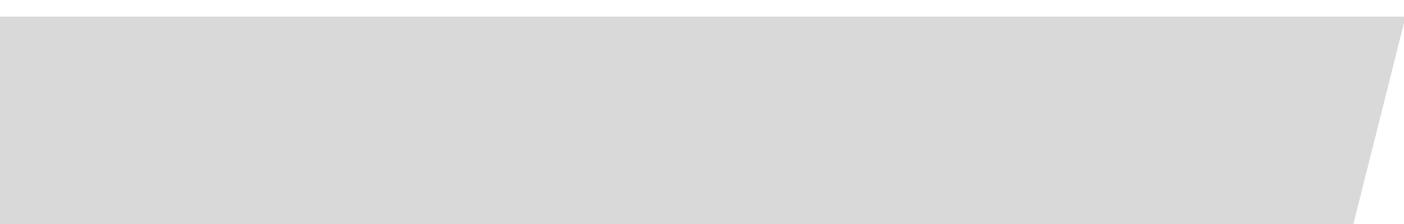
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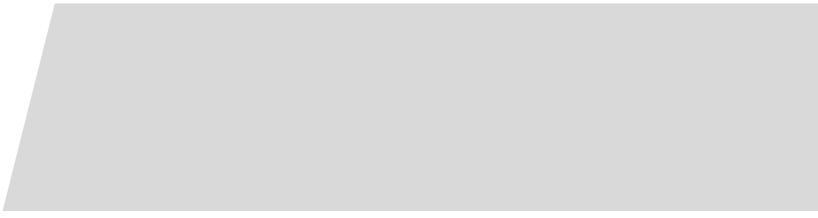
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05.

Chapter 5



Chapter 5. EFFECT OF REGION OF ORIGIN ON WILLINGNESS TO PAY FOR WINE: AN EXPERIMENTAL AUCTION

Carla Ferreira | Lígia M. Costa Pinto | Lina Lourenço-Gomes

Consumers valuation of wine is affected by the region of origin in two different ways: as a quality cue hinting to other intrinsic features of the wine, or by its symbolic or affective role. However, wine quality encompasses several features with great uncertainty for the consumers, ultimately affecting consumers' choices and willingness to pay. The purpose of this paper is to examine the effect of region of origin on wine consumers' preferences and willingness to pay for wine together with other determinants, using an incentive compatible tool. Data was collected through an experimental auction mechanism in different Portuguese wine regions. Consumers' willingness to pay for wines from three regions of origin (Douro wine, Dão wine, Alentejo wine) was assessed under two information scenarios: i) blind tasting followed by extrinsic information regarding the region of origin and ii) full information provided at once. Wine consumers characteristics regarding wine purchase and consumption practices, wine knowledge, risk attitude, and socio-demographic variables were also collected from the sample of 168 wine consumers. Results reveal that, the region of origin influences the hedonic evaluation of consumers. Moreover, consumers are willing to pay higher prices in full information condition, on average. Additionally, purchase frequency and less self-reported wine knowledge have a negative effect on the willingness to pay, while taste has a positive effect. The current study offers important insights for policy makers and wine producers regarding the existence of significant preference heterogeneity and to the role that the region of origin has on the monetary evaluation of wine, as well as on the hedonic rating, and purchase frequency, when controlled by organoleptic attributes, and the importance of extrinsic cues

Keywords: Blind wine tasting: Elicitation methods, Willingness to pay, Wine,

Introduction

The wine quality concept encompasses several subcomponents representing great complexity for consumers' choice decision (Charters & Pettigrew, 2007). Several studies have presented taste as a dominant factor for wine choice (Keown & Casey, 1995; Thompson & Vourvachis, 1995). However, in almost all wine purchasing situations, tasting wines before choosing or purchasing is not a possibility. Thus, consumers make their decisions based on extrinsic cues, such as brand (Atkin, Nowak, & Garcia, 2007), labelling (Kammer & Rios-Morales, 2016), region of origin (Mueller & Szolnoki, 2010), grape variety (Chrea *et al.*, 2011), landscape (Tempesta *et al.*, 2010), wine ageing (Mtimet & Albisu, 2006), and bottle shape or colour (Mueller & Szolnoki, 2010). Consumer knowledge about wine and purchase place or occasion are also reported in the literature as influencing consumer decision (Ellis & Thompson, 2018; Vigar-Ellis, Pitt, & Caruana, 2015a, 2015b).

A number of studies show that there are differences in quality perception of wine among consumers for different degrees of wine knowledge (Hodgson, 2008; Hopfer & Heymann, 2014). The authors suggest that wine experience is a function of multiples factors that may contain memories of the taster and highly subjective experiences, suggesting the development of empirical studies to foster the understanding of wine consumer choice. In this context, there is a significant number of researches devoted to study how extrinsic cues interact in the global perception of wine and on consumer' choice. The methodological approaches used can be classified into three main groups: (1) surveys; (2) discrete choice experiments; and (3) economics experiments (Sáenz-Navajas, Campo, Sutan, Ballester, & Valentin, 2013). The first group of methodologies have their core in the analysis of wine choice behaviour by collecting wine consumers' statements only based on previous experiences and choices (Bruwer, Saliba, & Miller, 2011; Martinez, Mollá-Bauzá, Gomis, & Poveda, 2006; Melo, Colin, Delahunty, Forde, & Cox, 2010). The main drawback of this approach is that it focuses on the decision-making- process which is rarely conducted by rational considerations recorded by surveys. For Koster, (2009) the use of questionnaires should be limited privileging more behavioural and observational methods. The second group of methodologies is based on discrete choice experiments situations studying wine consumer choice and trade-offs between extrinsic cues. In this case, the individuals indicate their preferences by selecting from a controlled set of hypothetical wine samples. Hypothetical scenarios are usually applied although commercial wine samples can also to be used (Lockshin, Jarvis, D'Hauteville, & Perrouty, 2006; Mtimet & Albisu, 2006; S. Mueller, Lockshin, Saltman, & Blanford, 2010; Tempesta *et al.*, 2010;

Veale & Quester, 2009). This methodology has the advantage of being able to explore implicit determinants of a choice of a wine bottle. However, it has been demonstrated a lack of realism in relation to actual choice situations, following a “reductionist” approach (Koster, 2009). Furthermore, individuals may declare a strong preference and buying intent for wine, without actually purchasing them given the opportunity (Lange, Martin, Chabanet, Combris, & Issanchou, 2002). Finally, the third group of methodologies study the decision making process by simulating real choice situations. This research field combines sensory science and applied economics to improve the understanding of food choice behaviour, such as wine. There are numerous research publications that follow this approach: Combris, Bazoche, Giraud-Héraud, & Issanchou (2009); Costanigro, Kroll, Thilmany, & Bunning (2014); Gallardo, Hong, Silva Jaimes, & Flores Orozco (2018); Lange *et al.* (2002); Stefani, Romano, & Cavicchi (2006). In these studies, individuals are invited to evaluate the extrinsic and intrinsic sensory quality attributes and to provide a classification of the product and/or its sensory quality as a function of their preferences.

Following, the individuals participate in experiments that reveal the impact of their preferences on their well-being (Combris *et al.*, 2009). This impact can be measured in an incentive compatible institution using economic experiments (Gallardo *et al.*, 2018). The core idea of experimental economics is that choices and preferences declared by participants during the experimental session must have a real impact in their well-being. Thus, at the end of the experiment, participants know they will have to face the consequences of their decisions. In this context, economics brings an interesting approach to assessing the role of extrinsic cues in quality perception using auctions. This approach measures the willingness-to-pay (WTP) elicited by means of an incentive compatible mechanism (Noussair, Robin, & Ruffieux, 2004). The maximum price is calculated and individuals are assured that they will buy the product at a price equal or lower than their submitted WTP, according to the Becker-DeGroot-Marschak mechanism (Combris *et al.*, 2009; Gustafson, 2015). Despite the wide range of publications in this area (Lusk & Shogren, 2007), applications to wine are limited to a small number of researches (Combris *et al.*, 2009; Lecocq, Magnac, Pichery, & Visser, 2004).

In sum the use of experimental economics methods is ideal to elicit consumers preferences for wine under controlled circumstances by using incentive compatible mechanisms for elicitation of consumers WTP for goods in general, and wine in particular (Lusk & Shogren, 2007). Recent research shows that non-hypothetical elicitation methods have gained popularity as a tool for the evaluation of public and private goods in experimental

market settings with real products and real money to be exchanged (Tait, Saunders, Guenther, & Rutherford, 2016). However, despite being increasingly argued that real buying experiences lead to more reliable findings, there is an evident lack of applications in the field of wine choice. Thus, the purpose of this paper is to examine the effect of extrinsic and intrinsic cues on wine consumer's willingness to pay using economic experiments conducted in different Portuguese wine regions. The empirical analysis focuses on the following research questions: First: are consumers willing to pay a premium price for some region of origin? Second: which are the determinants that affect wine consumers' WTP? To achieve the objectives of this research, an experimental auction investigating Portuguese wine consumers' preferences was applied. According to International Organisation of Vine and Wine, in 2018, Portugal was 11th largest producer and the 12th largest consumer in the world. Historically, all Portuguese regions produce wine. Though, each region of origin has different geomorphological characteristics, that are reflected in the extrinsic and intrinsic attributes of the wine and, consequently in consumers behaviour. Furthermore, within each region there are differences as to how the wines connect to the winemaker and contribute to the local economy.

Materials and Methods

A panel of red wine consumers was selected in different Portuguese wine regions. Subjects participated in Becker-DeGroot-Marschak auction (Becker, Degroot, & Marschak, 1964) and hedonic test under different information conditions (Gustafson, 2015; Pomarici, Asioli, Vecchio, & Næs, 2018; Stefani et al., 2006).

Experimental auction

Experimental auctions are widely applied to elicit consumers' valuation using an incentive compatible mechanism. Following the theory, auctions are incentive compatible because each subject best bid is her/his true valuation (Amato, Ballco, López-Galán, De Magistris, & Verneau, 2017; Pomarici *et al.*, 2018). Auctions are widely used by marketing experts, psychologists, and economists to evaluate the success or failure of entry of new products in the real market. In this application, we collected individual WTP data using the incentive-compatible mechanism designed by Becker-DeGroot-Marschak (BDM) (Becker, Degroot, & Marschak, 1964). The BDM mechanism was selected among other demand-revealing valuation mechanisms (for example nth-price or Vickery auctions) because it is appropriate to eliciting WTP when the decision-making is an individual process, as is the choice of a wine bottle (Corrigan & Rousu, 2006; Gustafson, 2015). Furthermore, the literature highlights other advantages of BDM mechanism, such as: it provides incentives for truthful bidding for all participants, independent of the magnitude of their true WTP (Lusk, Alexander, & Rousu, 2007); it tends to equally penalize over and underbidding (Lusk & Shogren, 2007); it tends to decrease the psychological effects from being declared the winner of an auction (Corrigan & Rousu, 2006); and its format is easy to explain and most of the times one example is sufficient for participants to understand (Combris *et al.*, 2009). The BDM mechanism differs from other auction mechanisms by the rule for determining the price that a bidder has to pay. The price each individual has to pay is determined by comparing his or her bid to a randomly draw price from a uniform distribution. Each participant buys the product at the randomly selected price when his/her submitted bid equals or exceeds the randomly selected price. On the other hand, if participant's bid is lower than the random price, no purchase takes place (Lusk & Shogren, 2007).

Experimental procedure

The experiment was conducted between February 2019 and August 2019 in four Portuguese wine regions. Participants were recruited in each region of origin. The only

participation requirements were to be a regular still wine consumer (at least once a week) and to be aged 35 years old or higher. Previous studies suggest that this group of consumers tend to prefer red wine and are more experienced in choosing a bottle of wine, thus best responding to the objective of this research (Bruwer *et al.*, 2002; Wolf, Carpenter, & Qenani-Petrela, 2005). Each experimental session was divided into two treatments A and B, where the individuals were randomly distributed for each treatment. Participants were paid 5 euros as a participation fee. Overall, nine experimental sessions were held, four for treatment A and five for treatment B. Each treatment session started with a detailed explanation about the auction mechanism. To avoid participants having to buy more than one bottle (as three wines were under evaluation), one wine was selected at random (Stefani *et al.*, 2006). The participants were also informed about the distribution of potential prices, which was a distribution based on the average range of real consumer prices, ranging from 500 cents (5€) to 1200 cents (12€), in increments of 100 cents (1€). The respondents were encouraged to ask questions and to resolve all doubts. Previous studies have showed that for BDM mechanism, training rounds are not necessary, thus in this research none was applied (Feldkamp, T, Schroeder, & Lusk, 2005). Following the explanation of the session, each participant signed an individual informed consent form, which was mandatory for participation in the session. At the end, the participants were invited to complete a questionnaire. Information on wine purchasing and consumption habits, objective and subjective wine knowledge, and sociodemographic characteristics was collected through a questionnaire.

The experimental design for the Treatment A and B is outlined in Figure . Treatment A started with the blind tasting of 3 wines; no information about the wines was provided to the participants. The participants were asked to rate how they liked each wine using a 1-9 Likert scale (1=dislike extremely, 9 like extremely). Then, they were invited to submit their willingness to pay for a bottle of each wine, based on taste only (WTPA0). Next, information about region of origin of each wine was provided and the participants were given the opportunity of revising their WTP (WTPA). The BDM mechanism was then applied, by randomly selecting a price and a wine. In Treatment B, participants were informed about the region of origin of each wine and they were invited to taste. As in Treatment A, the participants were asked to make hedonic evaluation of each wine. After tasting, participants were asked to state their WTP for each wine (WTPB). At the final stage, the BDM mechanism was developed as in Treatment A. The impact of extrinsic cues is assessed using a sequential procedure in which participants are successively presented with new cues. This approach allows participants

the opportunity to revise their initial WTP after they receive extra information. Contrary to what happens in many of the previously published research, the WTP evaluation in different information conditions are not independent.

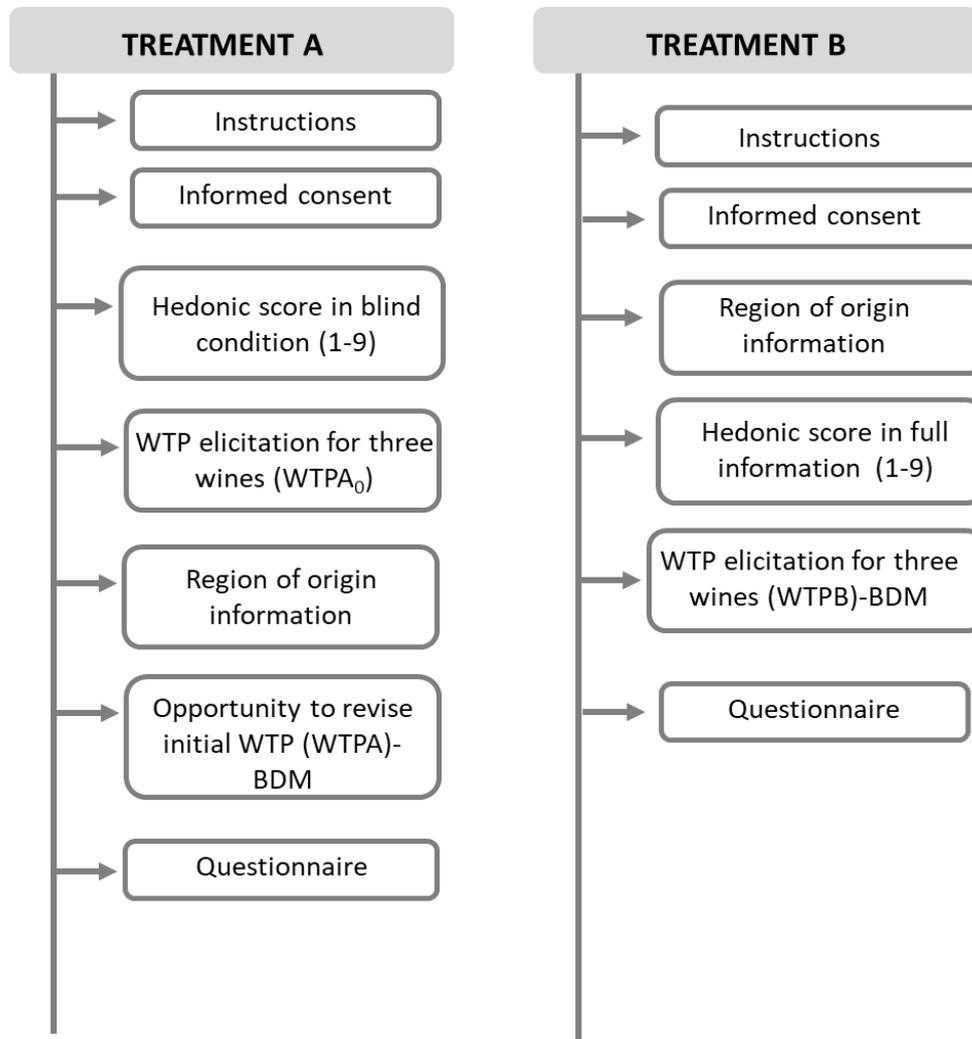


Figure 5.1- The experimental design steps for the Treatment A and B

Wines selection

Three Portuguese wine regions of origin (Douro, Alentejo, and Dão) were chosen for this experiment. The wines were selected considering the market share in volume and value for still wines, in 2018 (IVV, 2018). Comparing the market share (in volume and value) of still wines by the thirteen Portuguese wine regions, in 2018 (Table), Alentejo and Douro regions contributed more for sales total value. On the other hand, the Douro region contributed significantly less for sales total volume. Additionally, the Dão region was one of the most cited regions in Ferreira et al. (2019). For each wine region, the bottle selected was priced in the middle range (price comprised between 5€ and 12€), which is the most common price

range. Each wine sample, one of each wine region of origin, (30 mL) was identified with three-digit code randomly assigned. Additionally, to avoid first position distortions and possible carry over effects a William's latin square design was employed (Kokthi & Kruja, 2017; MacFie & Bratchell, 1989; Stefani *et al.*, 2006).

Table 5.1- Market share (in volume and value) of still wines by thirteen Portuguese wine regions

| Portuguese wine regions | Share in 2018 (%) | |
|-------------------------|-------------------|-------|
| | Volume | Value |
| Minho | 17,3 | 15,4 |
| Trás-os-Montes | 0,4 | 0,4 |
| Douro | 12,4 | 18,3 |
| Beiras | 0,1 | 0,1 |
| Terras de Cister | 0,0 | 0,0 |
| Beira Atlântica | 0,8 | 0,5 |
| Dão | 5,8 | 5,0 |
| Beira Interior | 0,7 | 0,6 |
| Lisboa | 4,7 | 4,0 |
| Tejo | 5,0 | 3,4 |
| Península de Setúbal | 15,0 | 10,2 |
| Alentejo | 37,4 | 40,9 |
| Algarve | 0,4 | 1,2 |

Source: IVV (2018)

Participants

At the end of the experimental auction, a number of consumers' descriptors were collected. Following the literature on wine consumer behaviour, the consumers' characteristics analysed were: i) wine consumption and purchasing habits, ii) subjective wine knowledge, using the scale of Flynn & Goldsmith (1999), iii) objective wine knowledge, using the scale applied by Forbes, Cohen, & Dean (2008), iv) sociodemographic, and v) risk attitudes (Higgins & Llanos, 2015). Consumers' features were measured in nominal, ordinal, and continuous scales. To elicit objective wine knowledge an eight-item measure anchored from 1 (totally disagree) to 7 (totally agree) was applied. The objective wine knowledge was measured by means of a modified version of the multiple-choice test developed by Forbes *et al.* (2008), where maximum score of each consumer is 5 and minimum is 0. While other measures of subjective and objective knowledge exist, this approach has been the most commonly applied in wine-related research (Barber, Taylor, & Strick, 2009).

Data analysis

Consumers' characteristics

Consumers' characteristics were investigated using univariate descriptive statistics for socio-demographics, wine habits, and self-reported knowledge (Pomarici *et al.*, 2018). To analyse what consumers know (objective knowledge) and what they think they know (subjective knowledge), the sample was divided into four segments using the subjective and knowledge results. Following the approach of Ellis & Caruana (2018) this split is based on the median of the subjective and objective knowledge scores. Thus, the median score for the objective and subjective knowledge was calculated, where each consumer with at or below the median were classified as "Low", whereas those above the median classified as "High" scores. Then, each consumer was subjectively labelled as shown in Figure .

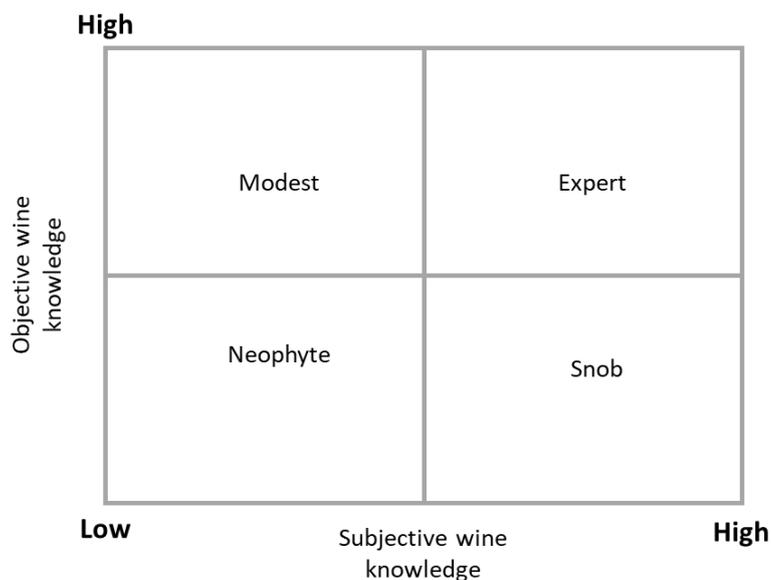


Figure 5.2- Wine knowledge type

Source: adapted from Ellis and Coruana, 2018

Auction data

Several econometrics models can be applied to analyse auction data (Lusk & Shogren, 2007). Lee *et al.* 2018 (2018) and Stefani *et al.* (2006) used linear model to examine how

consumers' WTP for a bottle of wine changes as a result of extrinsic information, such as region of origin. Based on our interest to investigate the factors affecting WTP a random effect panel model was estimated given the nature of the data. Hence the dependent variable in our model is the WTP bid in information complete condition given by each participant j for the each one of three wines types i .

In general, the model can be expressed as:

$$WTP_{ij} = \alpha_0 + \beta HS_{ij} + \sigma HS_{ij} * Origin_i + \sum_{n=1}^4 \gamma_n OrgoAttr_{nji} * Origin_i + \sum_{n=1}^{22} \theta_n BuyBeha_{nj} + \sum_{n=1}^7 \rho_n Soc_{nj} + \varepsilon_{ij} \quad \text{Equation 1}$$

The model (Equation 1) investigated the main effects of organoleptic attributes, buying behavior and sociodemographic characteristics on individual WTP. The variable HS_{ij} refers to the hedonic evaluation given by each participant to each one of three wines. $Origin_i$ represents the region of origin of the wine. The $OrgoAttr_{nji} * Origin_i$ is vector of interaction between the organoleptic attributes (colour, aromatic intensity, acid taste, and structure) with the region of origin. The variables $BuyBeha_{nj}$ refers to purchase habits of participants (number of bottles who buy per month and region of origin who buy more often) and the level of importance given by each participant to a set of extrinsic information at the moment of choice. Finally, Soc_{nj} relates to characteristics of participants and their household, such as age, gender, income, self-reported wine knowledge, and general risk attitudes. The variable *Treatment* was included in the model in order to control for the treatment effect. This variable is dichotomous with the value 1 for treatment A and the value 0 for treatment B. Additionally, the variable *combination* was introduced in the model to investigate if the tasting order influences the WTP declared. A more detailed explanation of all variables used in the model is presented in Table 5.2.

Table 5.2 – Variables description

| Variable | Description |
|---------------------------|---|
| Dependent variable | |
| WTP | Willingness to pay, measured after information in euros per wine bottle |
| Control variables | |
| Treatment | Takes the value 1 for treatment A and the value 0 for treatment B |
| Combination 1 | Takes the value 1 when presented the combination 1 and the value 0 otherwise [Baseline] |
| Combination 2 | Takes value 1 when presented the combination 2 and the value 0 otherwise |
| Combination 3 | Takes value 1 when presented the combination 3 and the value 0 otherwise |

| | |
|---------------------------------|---|
| Combination 4 | Takes the value 1 when presented the combination 4 and the value 0 otherwise |
| Combination 5 | Takes value 1 when presented the combination 5 and the value 0 otherwise |
| Combination 6 | Takes value 1 when presented the combination 6 and the value 0 otherwise |
| Origin 1 | Takes the value 1 for Douro wine and 0 otherwise [Baseline] |
| Origin 2 | Takes the value 1 for Alentejo wine and 0 otherwise |
| Origin 3 | Takes the value 1 for Dão wine and 0 otherwise |
| Organoleptic attributes | |
| Hedonic score (HS) | Rating assigned to the attribute taste, measured on a scale from 1 to 9 |
| Colour (Col) | Rating assigned to the attribute colour, measured on a scale from 1 to 5 |
| Aromatic intensity (AI) | Rating assigned to the attribute aromatic intensity, measured on a scale from 1 to 5 |
| Acid taste (AT) | Rating assigned to the attribute acid taste, measured on a scale from 1 to 5 |
| Structure (Str) | Rating assigned to the attribute structure, measured on a scale from 1 to 5 |
| Buying behaviour | |
| Wine spending 1 | Monthly average spending on wine. Takes the value 1 when the monthly wine spending, measured in number of bottles bought, is 1 or less, and the value 0 otherwise. [Baseline] |
| Wine spending 2 | Monthly average spending on wine. Takes the value 1 when the monthly wine spending, measured in number of bottles bought, is 2 or 3, and the value 0 otherwise. |
| Wine spending 3 | Monthly average spending on wine. Takes the value 1 when the monthly wine spending, measured in number of bottles buy, is 4 or more, and the value 0 otherwise |
| RO Purchase 1 | Region of origin often purchased. Takes the value 1 when the <i>vinhos verdes</i> region of origin is more often purchase, and the value 0 otherwise. [Baseline] |
| RO Purchase 2 | Region of origin often purchased. Takes the value 1 when the Douro region of origin is more often purchase, and the value 0 otherwise. |
| RO Purchase 3 | Region of origin often purchased. Takes the value 1 when the Dão region of origin is more often purchase, and the value 0 otherwise. |
| RO Purchase 4 | Region of origin often purchased. Takes the value 1 when the Lisboa region of origin is more often purchase, and the value 0 otherwise. |
| RO Purchase 5 | Region of origin often purchased. Takes the value 1 when the Alentejo region of origin is more often purchase, and the value 0 otherwise. |
| Previous experience (PE) | Rating assigned to previous experience, measured on an importance scale from 1 to 7 |
| Someone's recommendation (SomR) | Rating assigned to someone's recommendation, measured on an importance scale from 1 to 7 |
| Region of Origin | Rating assigned to the extrinsic attribute region of origin, measured on an importance scale from 1 to 7 |
| Winemaker | Rating assigned to the extrinsic attribute winemaker, measured on an importance scale from 1 to 7 |
| Brand | Rating assigned to the extrinsic attribute brand, measured on an importance scale from 1 to 7 |
| QR code | Rating assigned to the extrinsic attribute QR code, measured on an importance scale from 1 to 7 |
| Sensorial profile | Rating assigned to the extrinsic attribute sensorial profile, measured on an importance scale from 1 to 7 |
| Food pairing | Rating assigned to the extrinsic attribute food pairing, measured on an importance scale from 1 to 7 |
| Certified organic | Rating assigned to the extrinsic attribute certified organic, measured on an importance scale from 1 to 7 |
| Label design | Rating assigned to the extrinsic attribute label design, measured on an importance scale from 1 to 7 |
| Bottle form | Rating assigned to the extrinsic attribute bottle form, measured on an importance scale from 1 to 7 |
| Wine history | Rating assigned to the extrinsic attribute wine history, measured on an importance scale from 1 to 7 |

| | |
|--|--|
| Awards | Rating assigned to the extrinsic attribute awards/medals, measured on an importance scale from 1 to 7 |
| Content alcohol | Rating assigned to the extrinsic attribute content alcohol, measured on an importance scale from 1 to 7 |
| Socio-demographic characteristics | |
| Gender | Takes the value 1 for female and the value 0 for male |
| Age | Age of the participants, measure in years |
| Income low | Level of household income. Takes the value 1 when the monthly net income, measure in euros, is less than 1 500 € and the value 0 otherwise. |
| Income Medium | Level of household income. Takes the value 1 when the monthly net income, measure in euros, is in the range [1 501;3 500] and the value 0 otherwise. |
| Income High | Level of household income. Takes the value 1 when the monthly net income, measure in euros, is higher than 3 501 and the value 0 otherwise. [Baseline] |
| Selfreplow | Level of self-reported wine knowledge. Takes the value 1 when the participants said had low knowledge and the value 0 otherwise. |
| General | Rating assigned to the general risk attitudes, measured on a scale from 1 (risk averse) to 5 (risk loving). |

Results

Sample description

Table shows summary statistics regarding consumers' characteristics, such as socio-demographics, wine habits, and wine knowledge. The sample is composed of 168 wine consumers; 53% were women with age between 35-68 years (mean= 43,6 years). The average household includes 2,3 members with more than 18 years old, and 44% of consumers have a monthly income (household) between 581 € and 1500 €.

In addition to socio-demographic characteristics, consumers were asked to state their buying and consumption habits: 43 % of consumers consume wine several times per week; 43% of the consumers purchase 1 or less wine bottles per month; the supermarket is the most frequent place to buy wine (77 %); the importance of region of origin during wine purchase is high (6 – very important). On average per week, consumers spend more on red wine than in any other alcoholic drink. Regarding self-reported wine knowledge, 69% of consumers state to have knowledge medium about wine. On the other hand, crossing subjective and objective knowledge, 41 % of consumers are “Neophytes”. This group of consumers has low scores on both objective and subjective knowledge test (Ellis & Caruana, 2018). According to Ellis & Caruana (2018) a neophyte is characterized as a novice buyer and knows little about wine. The second largest segment of consumers (37,9%) is characterized by low scores on objective knowledge, but high scores for subjective knowledge. This segment has been labelled “Snobs”; they are overconfident on their knowledge about wine (Ellis & Caruana, 2018). The next segment is labelled as “Experts” (11,8%), the consumers knew they knew a lot about wine. The smallest segment of consumers (9,5%) includes those that scored high in objective knowledge but low in subjective knowledge. This group of consumers know more than they admit or think they do, being called as “Modest”.

Table 5.3- Socio-demographic characteristics of the participants

| Variables | Relative Frequency (%) | Mean | S.D. |
|---------------------------------|------------------------|-------|------|
| Socio-demographics | | | |
| Age | | 43,62 | 8,56 |
| Gender | | | |
| Male | 47,3 | | |
| Female | 52,7 | | |
| Household monthly income | | | |
| < 580 € | 1,2 | | |
| 581 €-1 500 € | 44,4 | | |
| 1501 € - 2 500 € | 32 | | |

| Variables | Relative Frequency (%) | Mean | S.D. |
|--|------------------------|------|------|
| 2 501 € - 3 500 € | 14,2 | | |
| 3 501 € - 4 500 € | 4,1 | | |
| +4500 € | 4,1 | | |
| Household size | | 2,28 | 1,15 |
| Wine Habits | | | |
| Wine consumption frequency | | | |
| Never | 7,1 | | |
| Once | 37,3 | | |
| Several times | 42,6 | | |
| Every day | 13,0 | | |
| Wine purchases frequency (bottle/month) | | | |
| 1 or less | 42,6 | | |
| 2 to 3 | 34,9 | | |
| 4 or more | 22,5 | | |
| Red wine drinks spending per week | | | |
| Less than 4,99 € | 49,7 | | |
| 5,00 € - 9,99 € | 34,9 | | |
| 10,00€ -14,99€ | 8,3 | | |
| 15,00€ - 49,99€ | 6,5 | | |
| More than 50,00€ | 0,6 | | |
| Place of buying wine | | | |
| Internet | 0,6 | | |
| Supermarkets | 77,5 | | |
| Wine shops | 10,7 | | |
| Producers | 11,2 | | |
| Extrinsic cues^a | | | |
| Region of origin | | 6 | 1,34 |
| Profile sensory | | 5 | 1,37 |
| Food pairing | | 5 | 1,29 |
| Grape Variety | | 5 | 1,47 |
| Front label design | | 4 | 1,36 |
| Bottle form | | 4 | 1,34 |
| Wine history | | 4 | 1,30 |
| Winemaker | | 4 | 1,41 |
| Brand | | 5 | 1,37 |
| Medals/awards | | 4 | 1,35 |
| Wine Knowledge | | | |
| <i>Self-reported</i> | | | |
| Without Knowledge | 11,8 | | |
| Knowledge medium | 68,7 | | |
| Very Good | 18,9 | | |
| Connoisseurs | 0,6 | | |
| <i>Knowledge typology</i> | | | |
| Neophyte | 40,8 | | |
| Snob | 37,9 | | |
| Modest | 9,5 | | |
| Experts | 11,8 | | |

^a Importance level on a scale of one to seven with one equal to *No at all important* and seven equal to *Extremely important*

Consumers' preferences and willingness to pay

In order to assess the impact of region of origin information in features like colour, aromatic intensity, acid taste, structure, hedonic score, and preference order a two sample mean comparison test (*t-test*) was performed to compare the scores ascribed by participants in both treatments (blind tasting and complete information).

Table shows that participants value more the wine attributes when they have previous knowledge about their region of origin (Treatment B). Statistically significant differences ($p\text{-value} < 0.05$) were found for colour in Alentejo wine; aromatic intensity for Douro and Alentejo wines; and structure for Douro wine. For Dão wine statistical differences were not recorded in attributes under evaluation. In general, these results suggest that the information given do not influence the evaluation of attributes. Regarding the results on hedonic scores, information on the region of origin has statistically significant differences ($p\text{-value} < 0.05$) for the three wines. Especially the region of origin information leads to the overvaluation of wines in relation to blind tasting. These results are in line with findings of related literature which suggest that region of origin influence wine acceptability and creates an expectation of wine quality on consumers (Kokthi & Kruja, 2017; Stefani *et al.*, 2006). Comparing, the hedonic scores by region of origin and by information condition, we observe that in blind tasting (Treatment A), participants attribute the highest mean hedonic score to Douro wine. However, in the full information condition, Douro and Dão wine achieved the highest mean hedonic score. The difference between treatments is higher for the Dão and the Alentejo wine while for the Douro wine the difference is smaller. These differences can be explained by the choice behaviour of participants. According to Madureira & Nunes (2013), Portuguese consumers consider the region of origin as a driver of the process of choosing a wine suggesting the strength of region in the market. Also, the results are in line with wine consumption patterns reported by IVV (2018) and by findings in Ferreira, Lourenço-Gomes, Pinto, & Silva (2019). The authors concluded that consumers have different perceptions regarding Portuguese wine-producing regions, where Douro, Dão, and Alentejo were the most frequently chosen.

Regarding the preference order of wines among the two treatments no statistically significant differences were found. However, as well as for the hedonic mean score, the region of origin information enhances wine preferences. These results confirm the need to perform blind tasting in hedonic evaluation to avoid participants' beliefs about the extrinsic cues of the products being tested.

Table 5.4 - Mean values of hedonic scores with blind tasting (Treatment A) and with full information (Treatment B) for the three wine regions of origin

| | Region of origin | | | Overall |
|--|------------------|----------|---------|---------|
| | Douro | Alentejo | Dão | |
| Colour A | 3,68 | 3,27 | 3,68 | 3,55 |
| Colour B | 3,60 | 3,58 | 3,75 | 3,64 |
| Colour B-Colour A | -0,08 | 0,30** | 0,07 | 0,09* |
| Aromatic intensity A | 3,27 | 3,22 | 3,35 | 3,28 |
| Aromatic intensity B | 3,48 | 3,45 | 3,5 | 3,48 |
| Aromatic intensity B- Aromatic intensity A | 0,20** | 0,23** | 0,15 | 0,19** |
| Acid taste A | 3,2 | 3,52 | 3,3 | 3,33 |
| Acid taste B | 3,25 | 3,3 | 3,28 | 3,28 |
| Acid taste B-Acid teste A | 0,05 | -0,22* | 0,02 | -0,05 |
| Structure A | 3,22 | 3,21 | 3,32 | 3,25 |
| Structure B | 3,4 | 3,36 | 3,28 | 3,34 |
| Structure B-Structure A | 0,17** | 0,15 | -0,05 | 0,09 |
| Hedonic score A | 6,55 | 6,01 | 6,15 | 6,24 |
| Hedonic score B | 6,95 | 6,78 | 6,95 | 6,9 |
| Hedonic score B- Hedonic A | 0,39** | 0,77*** | 0,79*** | 0,65*** |
| Preference order (PO) A | 1,84 | 2,13 | 2,1 | 1,98 |
| Preference order (PO) B | 1,74 | 2,1 | 1,97 | 1,98 |
| PO B- PO A | -0,1 | -0,03 | -0,13 | 0 |
| N° Obs. Treatment A | 88 | 88 | 88 | 264 |
| N° Obs. Treatment B | 80 | 80 | 80 | 240 |

Attribute A = score attribute mean with blind tasting; Attribute B= score attribute mean with full information.

***Statistically significant at p-value<0,01; **Statistically significant at p-value<0,05;

*Statistically significant at p-value<0,1

In order to test the effects of information on the WTP for the three wines under evaluation, the differences between the WTP are calculated in three information conditions: immediately after blind-tasting without information (WTPA0); with information after blind tasting (WTPA); and with complete information available from the beginning (WTPB). In each treatment, auction situations were performed with WTPA and WTPB values, respectively. The results are presented in Table . It is observed that, in treatment A when the participants receive information about region of origin, their WTP increases for the three wines, being particularly significant for Douro wine. Comparing with results by Lange et al. (2002), it suggests that participants were well informed about the auction procedure.

In same line, the elicited WTP in treatment B (WTPB) is consistently higher than in treatment A (WTPA). Several previous studies reported a similar behaviour where the participants declared to pay for wine a lower price in the blind tasting condition than in the complete information condition (Combris et al., 2009; Gustafson, 2015; Lange *et al.*, 2002). Results from a t-test showed the differences between WTP in both treatments is only statistically significant (p-value <0,1) for the Alentejo wine. However, overall the differences

among treatment A and B are statistically significant at 5%, that is, overall the moment when information about region of origin is provided can influence the WTP of participants. In this sense, the WTP difference observed between the three information conditions can be explained by a parallel shift of hedonic perceptions whereby participants adapt actual perceptions to expectations (Stefani *et al.*, 2006).

Table 5.5- WTP for Douro, Dão, and Alentejo wine (euros). Mean and (Std.Dev.)

| Treatment | Region of origin | | | Overall |
|---------------------|------------------|----------------|----------------|----------------|
| | Douro | Alentejo | Dão | |
| A ₀ | 1,91 (0,26) | 1,99 (0,29) | 3,22 (0,30) | 2,55 (0,13) |
| A | 4,96 (0,24) | 4,69 (0,26) | 4,76 (0,24) | 4,81 (0,14) |
| B | 5,43 (0,29) | 5,25 (0,29) | 5,17 (0,25) | 5,28 (0,16) |
| B-A | 0,48 | 0,56* | 0,4 | 0,48** |
| N° Obs. Treatment A | 88 | 88 | 88 | 264 |
| N° Obs. Treatment B | 80 | 80 | 80 | 240 |

***Statistically significant at p-value<0,01; **Statistically significant at p-value<0,05;

*Statistically significant at p-value<0,1

Determinants of willingness to pay

In order to investigate how consumers' WTP for wine change with available information, sociodemographic characteristics, and purchase habits six models were estimate, controlling for treatment conditions, combinations, and region of origin. The results are presented in Table 5.6. Comparing across estimations, coefficient estimates are very similar and signs are quite stable, showing that model specification is rather robust.

Models 1, 2, and 3 explore the determinants of consumers' WTP based on sociodemographic characteristics and two wine purchase habits: monthly average wine spending, and region of origin often purchased. For the three models, the variable *wine spending 2* (2 to 3 wines bottles per month) in relation to *wine spending 1* (1 or less wines bottles per month) negatively affects participants' WTP. These results suggest that the frequency of purchasing wine lowers the predicted value of WTP in accordance with Barber & Taylor (2013).

Taking into account that wine is an information-intensive product with a multitude of attributes, self-reported wine knowledge can affect hedonic scores and WTP. Self-reported knowledge refers to what individuals perceive they know based on expertise as well as on

experience (King, Johnson, Bastian, Osidacz, & Francis, 2012). The literature argues that self-reported wine knowledge can be a strong predictor of the consumers' search behaviour (Marques & Guia, 2018; Oh & Abraham, 2016; Utkarsh, Sangwan, & Agarwal, 2019). The results of Model 3 show that, for a significance level of 5%, consumers with a lower self-reported wine knowledge are willingness to pay less for a wine bottle. This effect agrees with previous findings that suggest that high self-reported wine knowledge consumers tend to prefer wine stores and producers for shopping and they are willingness to pay more (Lee *et al.*, 2018).

In addition to being an information intensive good, wine is an experience good, where quality can only be assessed during a tasting experience. Several studies highlighted that taste is a dominant attribute for wine choice (Keown & Casey, 1995; Thompson & Vourvachis, 1995), as it constitutes a risk concerning most consumers (Mitchell & Greatorex, 1988; Spawton, 1991). In this sense, in Model 4 and Model 5 the variables related with hedonic evaluation were introduced to investigate its effect on consumers' WTP. The results in Model 4 show that hedonic score have a strong statistical significance to predict the WTP. Comparing the Model 3 with the Model 4, the results indicate the importance of tasting in wine valorisation. I. e, when participants are sensitive to region of origin information, when fully informed they rely more on their sensory evaluation to declare their WTP. This result is in line with Combris *et al.* (2009).

Comparing the effect of hedonic score on stated WTP, for the three wines under evaluation (Model 5), the three interaction terms are statistically significative, for a significance level of 1%, highlighting the effect of hedonic score on declared WTP. However, when we introduced the interaction the three wines and the organoleptic attributes (colour, aromatic intensity, acid taste, and structure) in Model 6, the results show that the effect is different across intrinsic attributes. Regarding the attribute colour only the interaction *Col*Origin 1* (Douro) is statistically significative at 1%. In this case, for Douro wine, an increase one-unit colour intensity lead to 0,18 points increase in the predicted value of WTP. On the other hand, the interaction between Acid Taste and origin, *AT* Origin 1* (Douro) has negative effect on declared WTP, for a significance level of 5%. Regarding to structure, the results show that iteration *Str*Origin 2* (Alentejo) and *Str*Origin 3* (Dão) have a positive effect on declared WTP. These findings can be explained by the general idea among Portuguese consumers regarding intrinsic features perception regarding different Portuguese wine-producing region. In general, the Douro wine is perceived as a wine with taste heterogeneity and robust colour (Ferreira *et al.*, 2019; Madureira & Nunes, 2013).

As the sensory quality is complex, subjective, and difficult to measure and communicate, the consumers tend to use the extrinsic cues in decision-making process (Kokthi & Kruja, 2017; Stefani et al., 2006). Consumers make their decisions using the available information from the label and bottle (Lockshin & Hall, 2003). In this context, we estimate the effect on declared WTP of several extrinsic cues (Model 7 and Model 8) reported in literature as key in evaluation of expected quality wine (Kokthi & Kruja, 2017; Lee *et al.*, 2018; Pomarici *et al.* 2018; Stefani *et al.*, 2006; Vecchio *et al.* 2018). For a significance level of 5%, the results show a positive effect of the brand on declared WTP, while the importance of winemaker have negative effect. Related suggest brand as one of extrinsic cues more looked for by consumers as risk-reduction strategy (Mueller & Szolnoki, 2010). Thus, it is expected that strong brand in the market lead to a high expected quality and consequent higher consumers' willingness to pay.

An interpretation of the sum of our findings is that there is a consistency in WTP estimates for purchase frequency, region of origin when controlled by organoleptic attributes, and importance of extrinsic cues. With the inclusion of hedonic score, we examine differences in WTP for self-reported wine knowledge, eliminating the relation between self-reported wine knowledge and individuals' WTP. These results highlight the role of tasting on the monetary valorisation of a wine bottle.

Table 5.6- Estimation of the determinants of the WTP (standard errors in parenthesis)

| Variables | Model coefficients | | | | | | | |
|-----------------|---------------------|-----------------------|-----------------------|------------------------|----------------------|-----------------------|-----------------------|------------------------|
| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 | Model 7 | Model 8 |
| Gender | 0,0266 (0,0406) | 0,0250 (0,0412) | 0,0303 (0,0408) | 0,0409 (0,0377) | 0,0431 (0,038) | 0,0186 (0,0394) | 0,0086 (0,0373) | 0,00203 (0,0371) |
| Age | 0,0708 (0,157) | 0,1200 (0,1640) | 0,2050 (0,160) | 0,1560 (0,1420) | 0,1610 (0,141) | 0,1530 (0,1530) | 0,2030 (0,1560) | 0,2600 (0,160) |
| Income low | 0,0153 (0,117) | 0,0413 (0,114) | 0,0517 (0,107) | -0,0109 (0,0949) | -0,0211 (0,0942) | 0,0663 (0,1180) | 0,0587 (0,1130) | 0,0268 (0,111) |
| Income Medium | -0,0954 (0,118) | -0,0874 (0,115) | -0,0950 (0,106) | -0,1540 (0,0940) | -0,157* (0,0931) | -0,0665 (0,118) | -0,0927 (0,121) | -0,1350 (0,1140) |
| General | 0,0383 (0,0309) | 0,0362 (0,0312) | 0,0280 (0,0315) | 0,0282 (0,0292) | 0,0266 (0,0286) | 0,0294 (0,0307) | 0,0257 (0,0321) | 0,0305 (0,0341) |
| Wine spending 2 | -0,117* (0,0624) | -0,1420** (0,0646) | -0,1450** (0,0635) | -0,1550*** (0,0584) | -0,150** (0,0579) | -0,1420** (0,0619) | -0,131** (0,0615) | -0,1430** (0,0602) |
| Wine spending 3 | 0,0369 (0,0784) | 0,0316 (0,0833) | 0,0197 (0,0819) | -0,00536 (0,0766) | -0,0045 (0,0761) | 0,0231 (0,0827) | 0,0114 (0,0827) | -0,0264 (0,0874) |
| RO Purchase 2 | | 0,0904 (0,127) | 0,0874 (0,122) | 0,0842 (0,122) | 0,0770 (0,126) | 0,0885 (0,1270) | 0,0940 (0,125) | 0,0511 (0,127) |
| RO Purchase 3 | | 0,163 (0,162) | 0,1430 (0,1620) | 0,1370 (0,1540) | 0,143 (0,156) | 0,1430 (0,1640) | 0,208 (0,166) | 0,1970 (0,1730) |
| RO Purchase 4 | | 0,340* (0,200) | 0,3320* (0,1950) | 0,3340 (0,2080) | 0,322 (0,208) | 0,3260 (0,2090) | 0,216 (0,228) | 0,1730 (0,2160) |
| RO Purchase 5 | | 0,172 (0,152) | 0,1740 (0,1480) | 0,1430 (0,1450) | 0,143 (0,149) | 0,1960 (0,1510) | 0,1700 (0,1450) | 0,1590 (0,1460) |
| Selfreplow | | | -0,2060** (0,0863) | -0,1290 (0,0789) | -0,136* (0,0777) | -0,1870** (0,0861) | -0,1870** (0,0815) | -0,2250*** (0,0794) |

| Variables | Model coefficients | | | | | | | |
|----------------------|--------------------|---------|---------|----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 | Model 7 | Model 8 |
| HS | | | | 0,144*** (0,0157) | | | | |
| HS*Origin 1 | | | | | 0,1930*** (0,0220) | | | |
| HS*Origin 2 | | | | | 0,1170*** (0,0236) | | | |
| HS*Origin 3 | | | | | 0,1400*** (0,0245) | | | |
| Col*Origin 1 | | | | | | 0,1800*** (0,0438) | 0,182*** (0,0422) | 0,173*** (0,0413) |
| Col*Origin 2 | | | | | | 0,0254 (0,0413) | 0,0258 (0,0417) | 0,0286 (0,0432) |
| Col*Origin 3 | | | | | | -0,0312 (0,0489) | -0,0219 (0,0479) | -0,0253 (0,0460) |
| AI*Origin 1 | | | | | | 0,0197 (0,0390) | 0,0200 (0,0412) | 0,0266 (0,0387) |
| AI*Origin 2 | | | | | | -0,0415 (0,0483) | -0,0338 (0,0491) | -0,0339 (0,0489) |
| AI*Origin 3 | | | | | | 0,0705* (0,0419) | 0,0532 (0,0414) | 0,0502 (0,0416) |
| AT*Origin 1 | | | | | | -0,0846** (0,0410) | -0,0897** (0,0393) | -0,0784** (0,0384) |
| AT*Origin 2 | | | | | | -0,0466 (0,0411) | -0,0391 (0,0397) | -0,0384 (0,0397) |
| AT*Origin 3 | | | | | | -0,0381 (0,0356) | -0,0430 (0,0350) | -0,0512 (0,0359) |
| Str*Origin 1 | | | | | | 0,0495 (0,0424) | 0,0620 (0,0424) | 0,0495 (0,0425) |
| Str*Origin 2 | | | | | | 0,126** (0,0490) | 0,1260** (0,0495) | 0,1160** (0,0504) |
| Str*Origin 3 | | | | | | 0,152*** (0,0395) | 0,1510*** (0,039) | 0,152*** (0,0412) |
| PE | | | | | | | -0,00926 (0,0212) | -0,0070 (0,0235) |
| SomR | | | | | | | 0,0174 (0,0296) | 0,0176 (0,0330) |
| Region of Origin | | | | | | | -0,0328 (0,0209) | -0,0347* (0,0201) |
| Winemake r | | | | | | | -0,0611** (0,0251) | -0,0690** (0,0277) |
| Brand | | | | | | | 0,0671** (0,0268) | 0,0610** (0,0277) |
| QR code | | | | | | | 0,0421* (0,0227) | 0,0434* (0,0226) |
| Sensorial profile | | | | | | | | 0,0299 (0,0234) |
| Food pairing | | | | | | | | -0,0195 (0,0246) |
| Certified organic | | | | | | | | 0,0230 (0,0236) |
| Label design | | | | | | | | -0,00693 (0,0301) |
| Bottle form | | | | | | | | -0,0229 (0,0328) |
| Wine history | | | | | | | | 0,0157 (0,0255) |
| Awards | | | | | | | | 0,0105 (0,0243) |

| Variables | Model coefficients | | | | | | | |
|-----------------|----------------------|----------------------|----------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 | Model 7 | Model 8 |
| Content alcohol | | | | | | | | -0,0333 (0,0238) |
| Treatment | -0,0929* (0,0553) | -0,0932* (0,0554) | -0,0902* (0,0543) | 0,0059 (0,0505) | 0,0023 (0,0504) | -0,0850 (0,0556) | -0,0683 (0,0580) | -0,0483 (0,0603) |
| Combination 2 | -0,0357 (0,0892) | -0,0211 (0,0898) | -0,0255 (0,0906) | -0,0144 (0,0882) | -0,0108 (0,0881) | -0,0216 (0,0938) | -0,0283 (0,0954) | -0,0459 (0,0882) |
| Combination 3 | 0,0552 (0,0927) | 0,0701 (0,0953) | 0,0880 (0,0935) | 0,0416 (0,0898) | 0,0465 (0,0888) | 0,106 (0,0956) | 0,0908 (0,0925) | 0,1070 (0,0911) |
| Combination 4 | 0,0648 (0,0907) | 0,0764 (0,0882) | 0,0460 (0,0878) | 0,00731 (0,0860) | 0,0060 (0,0857) | 0,0620 (0,0888) | 0,0430 (0,0905) | 0,0336 (0,0886) |
| Combination 5 | 0,0612 (0,0996) | 0,0526 (0,0989) | 0,0346 (0,0975) | 0,0263 (0,0965) | 0,0380 (0,0952) | 0,0270 (0,0896) | 0,0376 (0,0947) | 0,00247 (0,0951) |
| Combination 6 | 0,1130 (0,0813) | 0,1270 (0,0809) | 0,124 (0,0795) | 0,116 (0,0751) | 0,1290* (0,0757) | 0,1090 (0,0819) | 0,0912 (0,0833) | 0,0938 (0,0803) |
| Origin 2 | 0,0623* (0,0343) | -0,0625* (0,0345) | -0,0625* (0,0346) | -0,0104 (0,0270) | 0,493** (0,213) | 0,345 (0,328) | 0,3250 (0,3230) | 0,3340 (0,320) |
| Origin 3 | -0,0507 (0,0373) | -0,0523 (0,0374) | -0,0515 (0,0374) | -0,0225 (0,0272) | 0,3370* (0,1990) | 0,0547 (0,326) | 0,1320 (0,3190) | 0,164 (0,332) |
| Constant | 1,296** (0,617) | 0,9820 (0,6660) | 0,7110 (0,6550) | -0,0576 (0,598) | -0,3960 (0,6150) | 0,266 (0,733) | 0,0128 (0,734) | -0,220 (0,765) |
| Prob > F | 0,1418 | 0,1467 | 0,0566 | <0,0001 | <0,0001 | <0,0001 | <0,0001 | <0,0001 |
| R-sq overall | 0,056 | 0,066 | 0,0840 | 0,281 | 0,290 | 0,184 | 0,218 | 0,238 |
| Observations | 495 | 495 | 495 | 495 | 495 | 495 | 495 | 495 |

Note: Robust standard are in parentheses.

***Statistically significant at p-value<0,01; **Statistically significant at p-value<0,05; *Statistically significant at p-value<0,1

Legend: General- general risk attitudes; Wine spending- Monthly average spending on wine; RO Purchase- Region of origin often purchase; Sefreplow- Level of self-reported wine knowledge; HS- Hedonic score; Col- Colour; AI- Aromatic intensity; AT- Acid taste; Str- Structure; Origin- Region of origin; PE- Previous experience; SomR- Someone's recommendation

Conclusion

The present study develops a wine experiment combining sensory and experimental economic techniques to measure consumers' preferences in terms of willingness to pay and hedonic score. The willingness to pay was elicited through an incentive compatible revelation mechanism, the BDM. The data collected allowed to investigate the influence of region of origin on wine consumer's preferences based on two economic experiments conducted in different Portuguese wine regions: (A) blind tasting followed by information; (B) tasting with provision of information on wine region of origin.

The results highlight a complex pattern of relationships among region of origin and monetary valuation and hedonic scores. The experimental results show that prior information on region of origin influences hedonic measurement, according to expectation about the region of origin. This effect was smaller in the Douro wine, which suggests a great correspondence between tasting and the region of origin. These results are especially important to study the strength of a region of origin as brand on wine market. Thus, the blind condition is very relevant to assess the intrinsic value of a product.

On the other hand, participants' bids increased with the information given. For example, the highest bids were observed in complete information condition. The experiments bring clear results on the impact of the region of origin and sensory evaluation on WTP for wines. The results show that taste determines consumers' WTP, but the impact level depends on the region of origin, and varies between regions and organoleptic attributes. These findings suggest the existence of preference heterogeneity and its importance on the monetary valuation of wine. This point deserves more investigation, specially to know whether heterogeneity is the outcome of stable individual-specific preferences or of ever-changing individual tastes. In this sense, a first step to address these questions is to combine concepts and techniques from different disciplines. On the other hand, the results show the importance of experimental design to explain stated WTP.

In relation to implications for the wine industry, our findings support previous research in that intrinsic attributes combined with a quality perception of region of origin are important determinants for consumers' valorisation. However, and compared to existing literature this paper advances by testing, in a real buying situation, the interaction between the hedonic and monetary evaluation and the provision of information on region of origin. In addition, the paper advances by considering the impact of sociodemographic characteristics and purchasing habits

on consumers WTP, finding that the most significant determinant are the frequency of purchase and the self-reported wine knowledge. This suggest that wine marketers may be able to employ other inputs related with tasting (i.e. wine tasting, fairs of promotion) than region of origin to signal quality. Additionally, they should devise strategies to increase consumers' confidence and self-reported wine knowledge, in order to improve the monetary valorisation of product. However, several limitations should be addressed in future studies, such as restriction of choice set and the absence of social interactions. On the other hand, interdisciplinary research is needed to fully understand the buying behaviour of wine consumers.

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06

Chapter 6

Chapter 6. GENERAL CONCLUSIONS

The research presented in this thesis focused on Portuguese wine consumer behaviour to explore behavioural differences, motivations, and perceptions which underlies the wine choice. This chapter starts with an overview about main findings, followed by a topic on methodological considerations and a discussion and interpretation of main results. Lastly, practical implications, directions for future research and final remarks are presented.

6.1. Main Findings

Founded on the literature reviewed, the question of the cues that seem to be more attractive to consumers and its relation to the wine choice behaviour remains. Chapter 2 analyses differences in the choice behaviour between women and men. In this context, we combined the evidence of focus groups with projective techniques and the statistical analysis of questionnaire to investigate the effect of gender on wine choice behaviour. The results clearly suggest that men and women look for different extrinsic cues in bottle and label design. Women favour information regarding the context of consumption, while men highlight information related to sensorial profile. When asked to taste a wine, region of origin and prior knowledge experience are two main reasons for men to choose a wine; women, on the other hand, seem to rely more on wine brand and previous experience. Regarding front and back label information, men and women also behave differently. Front label information (region of origin, awards, and region illustration) appears as more important for women, while back label descriptors (grape variety, world heritage site and wine history) are more relevant for men. Furthermore, the typography (font size) and information type were identified as negative aspects of the back label. In sum, this study contributes to current literature on wine consumer behaviour, exploring behavioural differences, perceptions and motivation by gender. One possible explanation of the behavioural differences observed is cultural. Thus, the second paper analyse the role of different types of knowledge on wine choice decision making.

Chapter 3 investigates the role that self-reported wine knowledge plays on individual attitudes and behaviour towards choice and evaluation of wine. A source triangulation combining qualitative and quantitative methods is applied. Self-reported wine knowledge seems to be a good predictor of behaviour by participants, where the methodological approach allows the contact among the consumer and the product, replicating the actual moment of choice. Very knowledgeable participants consider wine features, consume often, choose and evaluate wine quality through using information such as region of origin, grape variety, and alcohol content. On the other hand, least knowledge participants affirm that consumption

moment is very important and they choose and evaluate wine quality based on brand, food pairing, alcohol content, and wine image. In this sense, this research contributes to a more in-depth understanding about the importance of self-reported wine knowledge on the evaluation of the quality cues and consequently in differentiating consumer liking.

To evaluate the role of the wine region on the perceived quality of the wine itself as well as the impact of the consumers' wine knowledge on the perceived quality of a region of origin, an experimental design to elicit the consumer preferences (three information conditions) was applied (chapter 4). The results show that the region of origin affects the sensory profile, the consumer expectations, and the consumer informed liking. The percentage of dissonance varies by region of origin, i.e. the disagreement between the expected quality and experienced quality varies by region of origin. Comparing the three regions under study (Alentejo, Dão, and Douro) differences among the expected quality and experienced quality were: Alentejo region of origin has a higher dissonance percentage, while Douro region of origin has a lower dissonance percentage. Furthermore, the findings show that consumers' knowledge provides a useful basis for segmenting the wine market. Four segments of wine consumers were found. The region of origin arises as an extrinsic cue of quality sought by all segments of the consumers. The Neophytes segment shows hedonic sensitivity for positively evaluated wine with a known sensory profile. Thus, wine producers should carefully transmit the information and the specific product features, both in terms of sensory profile and in terms of market reputation.

Following these findings, we examine the effect of the region of origin on wine consumer's willingness to pay (WTP) based on economic experiments conducted in different Portuguese wine regions (chapter 5). The findings suggest that on average consumers are willing to pay higher prices in full information condition. The region of origin influences the hedonic evaluation of consumers. Additionally, the taste has a positive effect on willingness to pay, while purchase frequency and less self-reported wine knowledge have a negative effect on willingness to pay. In sum, this study offers important insights to policy makers and wine producers related to preferences heterogeneity and to the role of region of origin on the monetary evaluation of wine. Table summarise of the main findings of this thesis.

Table 6.1 - Overview of the main findings of this thesis

| IS THERE A GENDER EFFECT ON WINE CHOICE IN PORTUGAL? – A QUALITATIVE APPROACH | | |
|--|----------|---|
| | Aim | <ul style="list-style-type: none"> To analyse the existence and influence of gender effects on wine choice, specifically whether women and men seek the same cues in wine labelling |
| C.2 | Findings | <ul style="list-style-type: none"> Women frequently associate wine to the context of consumption Men frequently associate wine to convivial and sensorial pleasure Region of origin and prior knowledge experience are main reasons that lead men to choose a particular wine; Women place more trust on wine brand and previous experience in choosing wine Front label information (region of origin, awards, and region illustration) is more important for women; Back label descriptors (grape variety, world heritage site, and wine history) are more relevant for men; Typography and information type are a negative aspect of back label |
| HOW DOES SELF-REPORTED KNOWLEDGE INFLUENCE THE AFFECT OF EXTRINSIC CUES ON WINE CHOICE? A QUALITATIVE APPROACH | | |
| | Aim | <ul style="list-style-type: none"> To contribute to an in-depth understanding of the role that self-reported wine knowledge plays on individual attitudes and behaviour towards choice and evaluation of wine |
| C.3 | Findings | <ul style="list-style-type: none"> Low knowledgeable participants drink wine occasionally and consider the consumption moment as very important Low knowledgeable participants choose and evaluate wine based on brand, food pairing, alcohol content, and wine image Very knowledgeable participants consume often and choose and evaluate wine quality based on information such as region of origin, grape variety, and alcohol content |
| REGION OF ORIGIN AND PERCEIVED QUALITY OF WINE: AN ASSIMILATION – CONTRAST APPROACH | | |
| | Aim | <ul style="list-style-type: none"> To evaluate, in an experimental setting, the role of the wine region on the perceived quality of the product itself; To investigate the impact of the consumers' wine knowledge level on the perceived quality of a region of origin |
| C.4 | Findings | <ul style="list-style-type: none"> Region of origin information affects both the sensory profile, the consumer expectations, and the consumer informed liking The dissonance percentage is higher for the Alentejo region of origin, which means that there is a higher disagreement level between the expected quality and experienced quality For Douro region of origin, the experienced, expected and perceived quality are in concordance; Consumers' knowledge provides a useful basis for segmenting the wine market |
| EFFECT OF REGION OF ORIGIN ON WILLINGNESS TO PAY OF WINE: AN EXPERIMENTAL AUCTION | | |
| C.5 | Aim | <ul style="list-style-type: none"> To examine the effect of region of origin on wine consumers' preferences and the determinants of consumers' willingness to pay (WTP) for wine |
| | Findings | <ul style="list-style-type: none"> In full information condition wine consumers are willing to pay a higher price than with no information; Region of origin influences the hedonic evaluation of consumers; Taste has a positive effect on willingness to pay; Purchase frequency and less self-reported wine knowledge have a negative effective on willingness to pay |

6.2. Methodological consideration

For a better discussion and interpretation of the main findings it is important to take some methodological considerations into account. Regarding the participants recruited, as recommended in the literature we selected only regular consumers of still wine, experienced in choosing wine, having a good general state of health (self-reported), and adult Portuguese native speakers. When possible the selection of participants was balanced in gender. For all studies in this thesis, it was a desideratum to collect data in the contexts close to that where most frequently consumers taste wine, allowing an improved view of consumers' behaviour. Thus, in the two first papers, we employed wine tasting as a projective technique. In this stage, considering recent data on the domestic sales of Portuguese wines, we used a stimulus of five red wines to taste. Wines from Douro, Península de Setúbal, Dão, Alentejo, and Lisboa region were presented. In this case, the sensory profile was not under evaluation. Using the findings from these papers and on the literature, for the remaining two studies only three red wines were used. Related Literature suggests that in sensory analysis three samples for tasting is recommended to avoid taste saturation. In this sense, Douro, Dão, and Alentejo were selected for studies presented in chapter 4 and 5.

Qualitative studies contribute to an understanding of the human behaviour in different contexts and perceived situation. Among the qualitative research methods explored, focus group is unique as it allows the debate of a specific topic with a pre-determined group of people. In this thesis we applied focus group as an exploratory research methodology to explore the more complex aspects about the impact of gender on wine choice evaluating whether women and men seek the same cues in wine labelling (chapter 2); and to explore the role that self-reported wine knowledge plays on individual attitudes and behaviour towards choice and evaluation of wine (chapter 3). The data obtained through focus groups is expressed in words and thus analysed by through the application of content analysis methodology. To increase validity and reliability of our qualitative study, we follow the four criteria and concepts created by Lincoln & Guba (1985): *credibility*, *dependability*, *transferability*, and *confirmability*. The *credibility* was guaranteed through triangulation of methods and investigators. Methods triangulation consists of gathering the same data varying the collecting method, in addition to the data collected through participants discourse, we also included a written individual questionnaire about wine consumption and purchasing habits of

participants. This triangulation allowed us to test information convergence. Investigator triangulation was carried out during the identification of units' categorisation. Two authors, one of them already experienced in content analysis, performed the analysis and discussed the results to ensure that no relevant data was excluded. Following related literature, the second concept, *dependability*, was insured by the recording of the five focus groups which allowed a significantly robust coding process. The *transferability* linked to results generalization is difficult in qualitative studies. However, qualitative approaches focus in depth on a smaller sample for a better understanding of human decisions in different contexts. The last concept, *confirmability*, refers to how data is discussed in relation to “truth” and “trustworthiness”, since there is no a definite “truth” in qualitative research.

The goal of projective techniques is to get participants to project their personality, subjective beliefs, and self-concepts for external stimuli ambiguous or unstructured, in order to give them structure and meaning. In this context, we included two projective techniques (word association and tasting) on focus groups as better way to elicit the perception and behaviour of consumers regarding the wine choice and consumption.

A number of advantages are reported to the use of quantitative methods, such as: accuracy; rationality and causality; forecasting ability; and generalization. Quantitative methods are frequently used to support decision making in many fields, including the prediction of consumer behaviour. In the last decades, a number of research methods have been applied to better understand consumer behaviour, especially in the food and beverage sector. Thus, in this thesis a multidisciplinary approach of sensory and consumer science was applied to help the wine industry to meet the consumers' needs. In order to analyse how the sensory aspects and non-sensory features influence the behaviour of purchase or consumption, we applied experimental economic methods. This approach allowed the analysis of sensory and non-sensory evaluations simultaneously (with and without interaction between them), according to Figure 6.1.

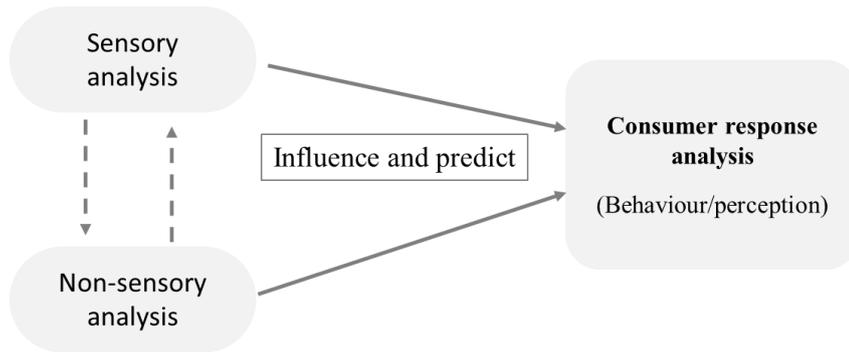


Figure 6.1 – Relationship between sensory and nonsensory analysis

Source: (Sogari *et al.*, 2019)

Based on this methods, blind tests were designed to measure the extent to which the information about region of origin brings bias into the sensory perception and evaluation of given wines. In first quantitative study (chapter 3), we applied the experimental design to investigate the role of the wine region on the perceived quality of the product itself. Thus, the conceptual framework of expectancy disconfirmation was employed to empirically compare the perceived distance among three Portuguese wine regions of origin with different levels of notoriety and image content. As there are many similarities among experimental economics and psychological research, we replicated this design using the experimental economics methodology for the lastly study (chapter 4). However, in this case, at the end of the experiment, participants knew they would have to face the monetary consequences of their decisions. Thus, we applied the BDM incentive mechanism to elicit participants' WTP. In both studies we applied a questionnaire on wine purchasing and consumption habits, objective and subjective wine knowledge, and sociodemographic characteristics.

6.3. Discussion and interpretation of the main findings

We have shown that there are a number of factors that influence the decision-making process of wine consumers. This process is very complex and involve several wine features combined with consumers' specific characteristics such as gender, knowledge, and purchase and consumption habits. Our results show that gender is a useful tool to explore the wine consumer behaviour. Women and men perceived different conceptual profiles for wine. When thinking about wine, women associate more frequently to the context of consumption, for example convivial moments with friends and family, while men associate more frequently to

both the context of consumption and wine features. The wine concept created linked with the frequency of consumption among women and men could justify increased attention from retailers and producers, to devise specific marketing strategies compatible with the needs of female and male consumers. In same line, Thach (2012) argued that men are more concerned with technical aspects, whereas women privilege the context of consumption.

Application of tasting as projective technique allowed to explore salient external motivations, which may help to understand consumers' choice decision. We have shown that the participants' choice was distinctive of their own wine consumption habits. In the wine tasting context, without social pressure, women are more likely to taste unknown wines signalling the importance of this events designed for women for marketers. Women stated that knowing or not knowing the wine and its brand were the most relevant reasons for choice. Previous studies suggest that women tend to choose the same brand of their preferred wine, diminishing the associated risk of a bad choice (Barber, Almanza, & Donovan, 2006; Barber, 2009). On the other hand, men tend to opt for a safe choice, choosing previously known wines or wines from familiar regions of origin. Men explained the importance of the region of origin on emotional empathy and on different levels of quality among regions.

In an increasingly competitive market, success can depend on effective labelling and packaging. Thus, product designers and winemakers should use label information as personalised communication vehicle to attract attention of consumers. In this context, we have shown that women and men value different types of information as quality cues, at the moment of choice. In the bottle front label, awards, and of origin were the most relevant elements for women; while for men the region of origin and brand were the most important elements of information. Women reported the region illustration as an information that brings history and confidence to wine. This behaviour may be justified by gender differences in information processing, reported in studies such as Barber (2009) and Forbes (2012). Men follow a more heuristic and institutive information processing methods; while women perceive a greater risk, and consequently, seek more information.

Regarding the bottle back label, we have shown that they are elements with excessive information, difficult to read and not very attractive. Clearly producers should consider new designs of back label. In general, we have found that men seem to value more the information in back label. Information about grape variety, wine history, World Heritage Site, alcohol content and winemaker were most relevant for men. On the other hand, women attribute more

relevance to food pairing, grape variety and alcohol content. Also, women argue that it is difficult to identify the value of the winemaker because of their lack knowledge. Thus, men look for information related to production, while women search indicators that provide memory cues (Marques & Guia, 2018)

The gender differences may result from differences in knowledge and information retrieved in the decision process. Based in these findings, we used a novel approach to understand the role that self-reported wine knowledge plays on choice and evaluation of wine; and to determine how self-reported knowledge mediates the effect of gender on decision-making process. We observed as consumers think, talk, and choose a red wine. Self-reported wine knowledge seems to be a good predictor of behaviour by consumers. We have shown that for least knowledgeable consumers the consumption moment is very important. They consume occasionally, and they choose and evaluate wine quality based on brand, food pairing, alcohol content, and wine image. On the contrary, very knowledgeable consumers consider wine features, consume often, choose and evaluate wine quality based on information such as region of origin, grape variety, and alcohol content. Individual perception of the risk of an unsuccessful choice can be a possible explanation for this behaviour. Less knowledgeable consumers may perceive a higher risk associated with the purchase of a wine bottle (Marques & Guia, 2018) giving more attention to brand/wine name to assess quality of wine whereas expert consumers privilege region of origin as a signal of quality. The least knowledgeable consumers will respond to brand names and labels that are fun and catchy while most knowledgeable consumers can represent highly informal, credible information sources (Ellis & Caruana, 2018). Furthermore, we found differences in wine buying locales: least knowledgeable consumers prefer to purchase wine in supermarkets more knowledgeable prefer e-commerce, such as reported in Thach & Olsen (2015). Thus, we have shown the information collected through focus groups and questionnaires suggest clear relationships between wine knowledge level and the information sought.

We also found that the region of origin is very important information for consumers as a wine quality cue. Furthermore, in the exploratory studies the consumers reported different levels of perception of Portuguese wine-producing regions. Understanding consumers and region of origin strength on perceived quality of wine are essential for the design of successful marketing strategies. In this sense, we performed an experimental design to elicit consumer preferences through hedonic evaluation under different information conditions. Three

Portuguese wine regions were under evaluation. We have shown that in complete information condition there was a valorisation of all regions. In blind tasting, consumers assign the highest mean hedonic score to Douro wine; while that in complete information condition, the Dão wine achieved the highest mean hedonic score. Furthermore, we have found a non-confirmation of expectations for all wines under evaluation, that is, expected quality was slight above experienced quality. The mean of disagreement between the expectation and the blind judgment was higher for Alentejo wine, and less for Douro wine. Thus, region of origin affects the overall wine evaluation increasing the mean of liking ratings indicating an assimilation effect for the three regions of origin under analysis. We have observed that reputation of regions as “brands” can influence the regions equity (D’Hauteville, Fornerino, & Perrouty, 2007; Lange, Martin, Chabanet, Combris, & Issanchou, 2002; Masson et al., 2008). On the other hand, the increasing degree of familiarity with region of origin can play a positive effect on liking (both expected and informed). Additionally, we studied three types of consumer knowledge (objective, subjective, and self-reported) in perceived quality of each region of origin. We have shown that combination of three types of knowledge is a useful basis for segmenting the wine market. The region of origin arises as an extrinsic cue of quality sought by all segments of the consumers. Moreover, the Neophytes segment shows hedonic sensitivity for positively evaluated known sensory profile.

Finally, we performed an experimental auction to elicit consumers’ WTP for the three Portuguese wine regions under evaluation (Douro, Dão, and Alentejo). Additionally, the wine experiment combined sensory techniques to measure consumers’ preferences in terms of hedonic score. We have shown a complex pattern on relationships among region of origin effect on monetary evaluation and hedonic score. The region of origin influences hedonic evaluation, according to expectation about the region, as in previous studies. Furthermore, the highest bids were observed in complete information condition, that is, the participants declared to pay for wine a lower price in the blind tasting condition than in the complete information condition (Combris, Bazoche, Giraud-Héraud, & Issanchou, 2009; Gustafson, 2015; Lange et al., 2002). We have found that hedonic evaluation has a positive effect on the WTP. These results suggest that the participants are sensitive to region of origin information, but when fully informed they rely more on their sensory evaluation (Combris *et al.*, 2009). On the other hand, we have shown the strength of region of origin to predict the effect of hedonic score on declared WTP. In general, the Douro wine is perceived as a wine with taste heterogeneity and with higher market price relative to Alentejo wine (Ferreira, Lourenço-

Gomes, Pinto, & Silva, 2019; Madureira & Nunes, 2013). We have shown that there is a consistency in WTP estimates for purchase frequency, region of origin when controlled by organoleptic attributes, and importance of extrinsic cues. With the inclusion of hedonic score, we examine differences in WTP for self-reported wine knowledge, eliminating the correlation between self-reported wine knowledge and individuals' WTP. These results highlight the role of tasting on the monetary valorisation of a wine bottle.

6.4. Practical implications and directions for future study

The success of a region specialised in the production of wines is understood in two main variables: environmental and firm-specific characteristics. For successful firms, the most important characteristics lie in their marketing approach, particularly in their ability to know and to predict market trends and to understand consumer behaviour to design appropriate strategies. Firms' development of products in terms of quality, together with useful marketing and branding strategies, can increase market volume, value and share. On the other hand, the increasing number of new wine consumers attentive to territory, to traditions, and culture of the region in which the wine is produced contribute for the promotion of the region as a touristic destination. Currently, the production of local wines as well as all the stages necessary to produce wines can comprise relevant components of a tourism package and, consequently, contribute to the economic development of the wine region. In this context, the main academic and practical implications are related with the advantage of wine marketers to understand the competitive environment where they are inserted.

A practical implication of the current work is related with the development of marketing campaigns regarding customization of product and, consequently, to contribute for the economic development of wine producing regions. Understanding wine consumer behaviour, exploring behavioural differences, perceptions, and motivation can help marketers communicate with specific market segments. Product designers and winemakers should use label information as a personalised communication vehicle to attract attention. For example, clearer and simplified back label is likely to be successful with all consumers. Furthermore, visits to wine-producing estates, co-creation experiences and wine tourism can be applied to help increase region and brand strength in the wine market. As knowledge mediates the effect of a specific socio-demographic variable on wine choice, several strategies can be thought to increase wine knowledge and self-confidence about wine quality. In this field greater wine

education is essentially. The creation of theoretical-practical wine courses can be a good solution for wine marketers and consumers. These courses should trigger the interest for wine consumption, as well as develop the necessary abilities for the consumer to evaluate the information of the label in an objective and precise way.

Another application of our work is relating to strengthen region of origin as a brand. Clearly the Alentejo region has a brand in the market that leads to higher consumer expectations. For other regions, such as Dão, investments should go to brand construction. Thus, wine producers should carefully transmit the wine information and the specific product features, both in terms of sensory profile and market reputation. Moreover, wineries could run information campaigns to communicate differences in sensory profile between regions of origin.

For further research, it will be adequate to explore more deeply the peculiar sensory attributes that influence wine consumer preferences. These researches would provide wine producers practical information about cues that affect the perceived quality of their wines and specifically target consumer segments.

6.5. Final remark

Wine arises with an elaborated conceptualisation map in consumers' mind where they report past consumption experiences, sensory aspects, and extrinsic attributes. To understand wine choice, it is crucial to consider the influence of previous experience, extrinsic and intrinsic attributes, knowledge, and socio-demographic variables per se, as well as their joint influence, and the interactions among them. The influence of explanatory factors can be attached to region of origin which can enhance or depreciate consumers' prior expectations. The results of this thesis show that region of origin has a determinant effect on the actual experience of consumption. Moreover, the moment when the consumers are informed of the region of origin of a particular wine, has influence on consumers liking and WTP for a bottle of wine. Moreover, consumers' WTP is significantly influenced by the hedonic score of the wine in a multivariate specification.

This thesis contributes to a better understanding about Portuguese wine consumers' choice behaviour. The different approaches applied revealed information not shown only with liking measurements or questionnaire. An integrative approach of perceptions, liking measurements, wine knowledge and WTP is key for a better understanding about decision-making process. The understanding of the variables that influence consumers' choices, and of their differentiated influence for identified market segments is key for the design of competitive products and above all effective marketing strategies. Documented knowledge regarding Portuguese wine consumer behaviour and preferences is still very little and further research is needed to improve product customization; to promote wine regions sustainable development; and to increase the competitive advantage of Portuguese wine sector.

In the Douro region in particular, where wine production is in the centre of the economic and social organization of the region, competitiveness of the wine product is essential for the sustainability of the region. Moreover, wine is a cultural good, the results here presented show that wine is synonymous of good conversation, friendship and family. Douro wine is in addition a product of years of history as the UNESCO designation of world heritage – living and evolving landscape- certifies.

When choosing the strategy to market a bottle of wine, the intrinsic and extrinsic cues of wine need to be considered and carefully combined to address the desires of a particular market segment. Being a cultural good, wine is appreciated and consequently bought differently by different segments. Men and women look for different extrinsic cues in a bottle

and label design; and level of self-reported wine knowledge influences wine choice. Furthermore, the information about region of origin influence of hedonic evaluation and perceived quality of wine. The thesis shows significant differences in the sensory and monetary evaluation of wine by gender, objective and subjective knowledge. Moreover, it shows the effect that some variables have on the effect of other variables on consumers' WTP and hedonic evaluation. In this context, the formulated research hypotheses were verified.

In sum, by using a combination of methodologies, quantitative and qualitative, real and simulated, the thesis presents robust and significant contributions to the academic literature. However, and most importantly it provides guidelines of the utmost importance for practitioners, (for example, vine and wine producers, local and national politicians) by identifying variables that can be modified, as for example subjective and objective knowledge, and strategies for the improvement of product market placement.

Finally, the research methodology here developed, being focused on wine, is applicable to other experience goods.

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07

Chapter 7



Chapter 7. Annexes

FOCUS GROUP

-English-

- Portuguese-

| |
|--|
| GUIDELINES FOR FOCUS GROUPS – RED WINE |
|--|

Phase 1 – SESSION OPENING (5 min)

Presentation of the moderator.

Acknowledgment to participants.

Explain the methodology of the work and the relevance of recording.

Reading and signing the informed consent.

Presentation of some rules for the good functioning of the discussion.

Rotating presentation (brief and neutral) of the participants.

Review of the objectives. Clarification of doubts. Beginning of questions.

Phase 2 - INTRODUCTION (30 min)

Conceptualization of product

When you think of wine, what are the first words that you associate immediately?

First individual exercise. Group discussion.

Tasting Session

Presentation of several red wine bottles from different Portuguese wine regions, trying to be as comprehensive as possible. Brand and taste will not be under evaluation. Participants will be able to taste the samples throughout the session

Which of these samples are you most interested in trying? Because? What attracted you the most to taste that particular wine first.

In sensory terms, how do you evaluate each bottle? Will the sensory evaluation be related to the wine region? How do you characterize the wine region (in general)? How do you differentiate them? What do you like best in each of the regions? What does each region associate with? Are there any key elements for each region associated with wine?

How do you compare wines in terms of their external image? Did the design of the bottle influence the choice? Did the name of the wine influence?

Phase 3 – KEY-QUESTIONS (50 min)

Label Information

When you choose a bottle do you read the labels? What attracts you the most?

Does the fact that the Douro Demarcated Region landscape is a UNESCO certified landscape influence the choice? Would an image of the region on the label be important?

Did any of the labels called your attention? If so why? Do you think some information is missing from the wine bottle labels? If so, what? What would it be important for labels to contain?

Do you usually read the information on the back-label? What do you think of this information? What do you think of the font size? Is it visible?

Does the region of origin influence the choice of wine? Do you think the wine history, sensorial profile, food pairing are important information?

If you had the opportunity to create a label for a red wine, what could not be missing?

Choice decision

Do you usually buy Douro wine? If you think about the last time you bought it, where was it? Were there wines from other regions? Also bought? What aspects influenced your choice decision?

Now speaking of consumption away from home, do you remember the last time you consumed Douro wine? Where was it?

Do you frequently consume wine in or out of meals?

How do you assess the relationship between gastronomy and the wine choice? What do you usually choose first? Are there specific dishes that go best with certain wines from certain regions?

Digital tools

Digital tools save us time in many everyday tasks.

In the case of wine, do you use digital tools to choose and / or buy wine? If so. What digital tools? Like? For what type of wine? If no. Because? What is missing?

Phase 3 – SUMMARY AND FINISHING (10 min)

Summarize and review the main conclusions of each question asked.

Ask if participants want to add something to the summary.

Check the filling of the forms with those of the participants' characterization.

Finalize and thank the participants again, delivering the gifts.

Informed consent

I, (full name) _____ the undersigned, understood the explanation that was given to me about my participation in the focus group: “How do we evaluate red wine?”.

This research has as main objective, to analyze the experiences and perceptions in relation to the red wine consumption in the scope of the PhD thesis entitled “Analysis of wine consumer preferences: an experimental approach”.

The information provided is confidential. The results obtained will be treated collectively, coded and used only for academic purposes. I was also informed that my participation is voluntary, so I will be able to interrupt it at any time without having to present any justification.

| | |
|-----|----|
| Yes | No |
|-----|----|

 I consent to participate in the above study

Date _____, _____ of _____ of _____

Signature of Participant _____

Researcher _____

Questionnaire

This questionnaire is a tool to characterize red wine buying and consumption habits, by the participants in the discussion group “How do we evaluate red wine?” within the scope of the PhD thesis entitled “Analysis of wine consumer preferences: an experimental approach”

It should be noted that all information contained is confidential, being used only for academic purposes.

Identification

Gender: Women Men

Age: _____

•
Professional situation

| | |
|---------------|--------------------------|
| Unemployed | <input type="checkbox"/> |
| Student | <input type="checkbox"/> |
| Self-employed | <input type="checkbox"/> |
| Employee | <input type="checkbox"/> |
| Other: _____ | <input type="checkbox"/> |

Education level

| | |
|--------------|--------------------------|
| 5-9 years | <input type="checkbox"/> |
| 10-12 years | <input type="checkbox"/> |
| Graduation | <input type="checkbox"/> |
| Master’s | <input type="checkbox"/> |
| PhD | <input type="checkbox"/> |
| Other: _____ | <input type="checkbox"/> |

Consumption habits

In the last year, which of the following wines have you consumed?

| | |
|---------------------------|--------------------------|
| Douro wine | <input type="checkbox"/> |
| Alentejo wine | <input type="checkbox"/> |
| Dão wine | <input type="checkbox"/> |
| Verde wine | <input type="checkbox"/> |
| Península de Setúbal wine | <input type="checkbox"/> |
| Other: _____ | <input type="checkbox"/> |

In the last year, how often did you consume red wine?

| | |
|-------------------------------------|--------------------------|
| Several times a month | <input type="checkbox"/> |
| Once a month | <input type="checkbox"/> |
| Occasionally (several times a year) | <input type="checkbox"/> |
| Once a year | <input type="checkbox"/> |

In the last year, on each consumption occasion, how many glasses of red wine (100 mL) did you drink on average?

1 2-3 More than 3

On a scale of 1 to 9, how much do you like to consume red wine in general?

Dislike
 Like
 extremely
 extremely

Neither like,
 nor dislike

Buying habits

In the last year, how often did you buy red wine?

| | |
|-------------------------------------|--------------------------|
| Several times a month | <input type="checkbox"/> |
| Once a month | <input type="checkbox"/> |
| Occasionally (several times a year) | <input type="checkbox"/> |
| Once a year | <input type="checkbox"/> |

In the last year, for what purpose did you buy red wine?

| | |
|----------------------------------|--------------------------|
| Current consumption | <input type="checkbox"/> |
| Offer | <input type="checkbox"/> |
| Consumption in special occasions | <input type="checkbox"/> |
| Other _____ | <input type="checkbox"/> |

In the last year, where did you buy red wine more often?

| | |
|--------------|--------------------------|
| Internet | <input type="checkbox"/> |
| Supermarkets | <input type="checkbox"/> |
| Wine shops | <input type="checkbox"/> |
| Other _____ | <input type="checkbox"/> |

How important are the following attributes when you choose a red wine bottle?
 (on a scale of 1 to 7, where 1 is Not at all important and 7 is Extremely important)

| Attributs | Scale | | | | | | |
|--------------------------|-------|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Food pairing | | | | | | | |
| Bottle form | | | | | | | |
| I read about it | | | | | | | |
| Wine history | | | | | | | |
| Back label information | | | | | | | |
| Brand | | | | | | | |
| Medals/awards | | | | | | | |
| Price | | | | | | | |
| Region of origin | | | | | | | |
| Front label attractive | | | | | | | |
| Someone's recommendation | | | | | | | |
| Alcohol content | | | | | | | |
| Previous experience | | | | | | | |
| Grape variety | | | | | | | |
| Profile sensory | | | | | | | |
| Other _____ | | | | | | | |

How much are you willing to pay at most for a red wine bottle to consume on a regular occasion? _____

How do you assess your level of wine knowledge?

| | |
|-----------|--------------------------|
| Null | <input type="checkbox"/> |
| Weak | <input type="checkbox"/> |
| Medium | <input type="checkbox"/> |
| Good | <input type="checkbox"/> |
| Very good | <input type="checkbox"/> |

GUIÃO PARA FOCUS GROUPS – Vinho tinto

FASE 1 – ABERTURA DA SESSÃO (5 minutos)

Apresentação do/a moderador/a (e seu ajudante).

Agradecimento aos participantes.

Explicar a metodologia do trabalho e a importância da gravação.

Leitura e assinatura da declaração de consentimento informado.

Apresentação de algumas regras para o bom funcionamento da discussão.

Apresentação rotativa (breve e neutra) dos participantes.

Revisão dos objetivos do encontro. Esclarecimento de dúvidas. Início das perguntas.

FASE 2 - INTRODUÇÃO (30 min)

CONCEPTUALIZAÇÃO DO PRODUTO

Quando pensam em Vinho, quais são as primeiras palavras que associam imediatamente?

Primeiro exercício individual. Discussão em grupo.

TASTING SESSION

Apresentação de diversas garrafas de vinho tinto de diferentes regiões de Portugal, tentando ser o mais abrangente possível como representação das diferentes regiões de Portugal com mais representatividade na produção de vinho tinto. Marca e sabor não estarão em avaliação. Os participantes poderão provar as amostras ao longo da sessão.

Qual destas amostras estão mais interessados em provar? Porquê? O que mais vos atraiu em provar primeiro esse determinado vinho.

Em termos sensoriais como avalia cada garrafa? A avaliação sensorial estará relacionada com as regiões onde o vinho é produzido? Como é que as caracterizam (de modo geral), como é que as diferenciam. O que gostam mais em cada uma das regiões? O que associam a cada região? Há algum elemento-chave para cada região associado ao vinho?

Como comparam estes vinhos em termos de imagem exterior? O design da garrafa influenciou a escolha? O nome do vinho influenciou?

FASE 3 – QUESTÕES-CHAVE (50 min)

INFORMAÇÃO DO RÓTULO

Quando escolhe uma garrafa lê os rótulos? O que lhe chama mais atenção?

O fato da paisagem da Região Demarcada do Douro ser uma paisagem certificada pela UNESCO influencia a escolha? Uma imagem da região no rótulo seria importante?

Algum destes rótulos vos chamou mais a atenção? Se sim porquê? Acham que falta alguma informação nos rótulos destas garrafas? Se sim, o quê? O que é que seria importante os rótulos conterem que não está contemplado?

Costumam ler a informação do contra-rótulo? O que acham dessa informação? O que acham do tamanho da letra? É visível?

A região de origem influencia a escolha do vinho? Acham que a história do vinho (local, quinta), a descrição dos sabores e o emparelhamento com as refeições são informações importantes?

Se tivessem hipótese de criar um rótulo para um vinho tinto o que é que não poderia faltar?

DECISÃO DE ESCOLHA

Habitualmente costumam comprar garrafas de vinho Douro Se pensarem na última vez que compraram, onde é que foi? Havia vinhos de outras regiões? Também compraram? Que aspetos influenciaram a vossa decisão de escolha?

Falando agora do consumo fora de casa, lembram-se da última vez que consumiram vinho Douro? Onde foi?

O V/ consumo habitual é dentro ou fora das refeições?

Como é que avaliam a relação da gastronomia com a escolha de um vinho? O que escolhem primeiro habitualmente? Há pratos específicos que vão melhor com certos vinhos de certas regiões?

FERRAMENTAS DIGITAIS

As ferramentas digitais permitem-nos poupar tempo em muitas tarefas do quotidiano. No caso do vinho, usam as ferramentas digitais para a escolher e /ou comprar o vinho? Se sim. Quais as ferramentas digitais? Como? Para que tipo de vinho? Se não. Porquê? O que falta?

FASE 4 – SÍNTESE E FINALIZAÇÃO (10 min)

Sintetizar e rever as conclusões principais de cada questão colocada.

Questionar se querem acrescentar algo ao resumo.

Verificar o preenchimento dos formulários com os das de caracterização dos participantes.

Finalizar e agradecer novamente aos participantes, entregando os brindes.

Consentimento Informado

Eu, (nome completo) _____

abaixo-assinado, compreendi a explicação que me foi fornecida acerca da minha participação no grupo de discussão (*Focus Group*): “ Como avaliamos o vinho tinto?”.

Esta investigação tem como objetivo principal, analisar as experiências e percepções em relação ao consumo de vinho tinto que decorre no âmbito da tese de Doutorado intitulada “Análise das preferências do consumidor de vinho: uma abordagem experimental”.

As informações prestadas são confidenciais. Os resultados obtidos serão tratados coletivamente, codificados e utilizados unicamente para fins académicos. Fui igualmente, informado/a que minha participação é voluntária, pelo que poderei interrompê-la a qualquer momento sem ter de apresentar qualquer justificação.

| | |
|-----|-----|
| SIM | NÃO |
|-----|-----|

Consinto participar no estudo acima designado

Data _____, _____ de _____ de _____

Assinatura do/a Participante _____

Investigador (es) _____

Questionário

O presente questionário constitui uma ferramenta de caracterização dos hábitos de compra e consumo de vinho tinto, por parte dos participantes no grupo de discussão “ Como avaliamos o vinho tinto?” no

âmbito da tese de Doutoramento intitulada “Análise das preferências do consumidor de vinho: uma abordagem experimental”

Salienta-se que toda a informação constante é confidencial, sendo unicamente utilizada para efeitos de académicos.

IDENTIFICAÇÃO

Género: Feminino Masculino

Idade: _____

Situação perante o trabalho:

| | |
|------------------------------------|--------------------------|
| Desempregado (a) | <input type="checkbox"/> |
| Estudante | <input type="checkbox"/> |
| Trabalhador(a) por conta própria | <input type="checkbox"/> |
| Trabalhador(a) por conta de outrem | <input type="checkbox"/> |
| Outro: _____ | <input type="checkbox"/> |

Habilitações literárias:

| | |
|---------------------|--------------------------|
| Até 9ºano | <input type="checkbox"/> |
| 12º ano/Equivalente | <input type="checkbox"/> |
| Licenciatura | <input type="checkbox"/> |
| Mestrado | <input type="checkbox"/> |
| Doutoramento | <input type="checkbox"/> |
| Outro: _____ | <input type="checkbox"/> |

HÁBITOS DE CONSUMO

No último ano, quais dos seguintes vinhos consumiu?

| | |
|-------------------------------|--------------------------|
| Vinho do Douro | <input type="checkbox"/> |
| Vinho do Alentejo | <input type="checkbox"/> |
| Vinho do Dão | <input type="checkbox"/> |
| Vinho Verde | <input type="checkbox"/> |
| Vinho da Península de Setúbal | <input type="checkbox"/> |
| Outro: _____ | <input type="checkbox"/> |

No último ano, com que frequência consumiu vinho tinto?

| | |
|--------------------------------------|--------------------------|
| Várias vezes por mês | <input type="checkbox"/> |
| Uma vez por mês | <input type="checkbox"/> |
| Ocasionalmente (várias vezes ao ano) | <input type="checkbox"/> |
| Uma vez por ano | <input type="checkbox"/> |

Não consumi

No último ano, em cada ocasião de consumo, quantos copos de vinho tinto (100 mL) bebeu em média?

1

2-3

Mais de 3

Numa escala de 1 a 9 quanto gosta/aprecia no geral consumir Vinho tinto:

1

2

3

4

5

6

7

8

9

Desgosto

Gosto

extremamente

extremamente

Nem gosto,

nem desgosto

HÁBITOS DE COMPRA

No último ano, com que frequência comprou vinho tinto?

Várias vezes por mês

Uma vez por mês

Ocasionalmente (várias vezes ao ano)

Uma vez por ano

Não comprei

No último ano, com que propósito comprou uma garrafa de vinho tinto?

Consumo corrente

Oferta

Consumo em ocasiões especiais

Outra. _____

No último ano, indique o local onde efetuou a compra de vinho tinto mais vezes:

Internet

Hipermercados/Supermercados

Lojas especializadas (garrafeira)

Outra. _____

Qual a importância que dá aos seguintes atributos quando escolhe uma garrafa de vinho tinto?
(numa escala de 1 a 7, onde 1 é nada importante e 7 muito importante)

| Atributos | N.A | Escala | | | | | | |
|-----------------------------|-----|--------|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Combinação com a comida | | | | | | | | |
| <i>Design</i> da garrafa | | | | | | | | |
| Eu li sobre isso | | | | | | | | |
| História do vinho | | | | | | | | |
| Informação no contrarrótulo | | | | | | | | |
| Marca | | | | | | | | |
| Medalhas/ Prémios | | | | | | | | |
| Preço | | | | | | | | |
| Região de Origem | | | | | | | | |
| Rótulo frontal atrativo | | | | | | | | |
| Recomendação de alguém | | | | | | | | |
| Teor Alcoólico | | | | | | | | |
| Ter provado antes | | | | | | | | |
| Variedade da Casta | | | | | | | | |
| Aroma | | | | | | | | |
| Corpo do vinho (textura) | | | | | | | | |
| Sabor/Avaliação sensorial | | | | | | | | |
| Outros _____ | | | | | | | | |

Quanto está disposto a pagar no máximo por uma garrafa de vinho tinto para consumir numa ocasião regular?

Como avalia o seu grau de conhecimento sobre o vinho tinto?

Nulo

Fraco

Médio

Bom

Muito Bom

| |
|--------------------------|
| <input type="checkbox"/> |

EXPERIMENTAL INSTRUCTIONS:

Treatment A and B

-English-

- Portuguese-

Experimental Instructions

Treatment A

WELCOME TO THE EXPERIENCE

Welcome and thank you for participating in the study we are conducting.

This study aims to better understand the decision making of the wine consumer.

Your contribution to our study will proceed in four phases. The instructions for the realization your tasks are simple and will be explained below. You will receive a monetary gift of 5 Euros for your participation. All your answers and decisions are anonymous, being identified merely with a number for the purposes of statistical treatment.

It is absolutely important that you do not speak to the other participants until the experiment is complete. If, at any time during the experiment, you have questions or problems, raise your hand and one of the monitors will clarify your doubts. We think the experience will last about an hour, so verify if can stay until the end, please. We also ask you to check, if you have your phone in silence.

We will now begin to explain each phase of the study.

1st Phase

At this phase, you will be presented 3 unidentified wines and asked to answer some questions.

2nd Phase

At this stage, you will be given some information about the 3 wines you tasted previously. Again, you will be asked to answer some questions, namely we will ask you to indicate the maximum amount you are willing to pay for a bottle of each wine. This amount will be used to determine a possible purchase. The way the purchase will proceed will be explained in the next step.

3rd Phase

At the end of the experiment we will proceed to the possibility of purchase. In this phase we will proceed in your presence to the random selection of one of the wines (among the three you have tasted) and a selling price.

How to determine the selling price?

The sale price will be extracted at random in your presence, from a range of numbers ranging from 500 to 1200, in increments of 100, where each of these numbers represent cents. For example, 1000 corresponds to 10 euros, 1100 corresponds to 11 euros and 1200 corresponds to 12 euros.

Example:

Imagine that **wine A** and number 700 were randomly drawn. This means that the selling price of the wine bottle A will be 7 €.

In this case, one of the following events will occur:

- If the amount you indicated you are willing to pay for that wine was greater than or equal to € 7, for example € 10. You will have to buy the wine bottle A for €7.
- If the amount you indicated you were willing to pay for that wine was less than 7 €, for example € 3. In this situation you will not have the opportunity to buy the wine.

These examples aim to show you that it is in your interest to think hard about the value you are really willing to pay and report that and only that amount.

4rd Phase

At this stage you will be asked to complete a questionnaire regarding your consumption of red wine.

This is all you need to know to carry out your tasks throughout the experience. It remains to add that it is only at the end of the 2nd phase that we will extract the balls and determine the wine and sale price.

If you have any questions or concerns, please do so now.

If you have no questions, you can sign the informed consent on your desk. Only when everyone has finished signing will we start the experiment.

Experimental Instructions

Treatment B

WELCOME TO THE EXPERIENCE

Welcome and thank you for participating in the study we are conducting.

This study aims to better understand the decision making of the wine consumer.

Your contribution to our study will proceed in four phases. The instructions for the realization your tasks are simple and will be explained below. You will receive a monetary gift of 5 Euros for your participation. All your answers and decisions are anonymous, being identified merely with a number for the purposes of statistical treatment.

It is absolutely important that you do not speak to the other participants until the experiment is complete. If, at any time during the experiment, you have questions or problems, raise your hand and one of the monitors will clarify your doubts. We think the experience will last about an hour, so verify if you can stay until the end, please. We also ask you to check, if you have your phone in silence.

We will now begin to explain each phase of the study.

1st Phase

At this phase, you will be given information on the region of origin of the three wines that are in front of you, and asked to answer some questions.

2nd Phase

At this stage, you will be asked to taste each of the three wines and classify them, according to your sensory perception and preference level. For each of the wines, you will be asked to also indicate the maximum amount you are willing to pay. This amount will be used to determine a possible purchase. The way the purchase will proceed will be explained in the next step.

3rd Phase

At the end of the experiment we will proceed to the possibility of purchase. In this phase we will proceed in your presence to the random selection of one of the wines (among the three you have tasted) and a selling price.

How to determine the selling price?

The sale price will be extracted at random in your presence, from a range of numbers ranging from 500 to 1200, in increments of 100, where each of these numbers represent cents. For example, 1000 corresponds to 10 euros, 1100 corresponds to 11 euros and 1200 corresponds to 12 euros.

Example:

Imagine that **wine A** and number 700 was randomly drawn. This means that the selling price of the wine bottle A will be 7 €.

In this case, one of the following events will occur:

- If the amount you indicated you are willing to pay for that wine was greater than or equal to € 7, for example € 10. You will have to buy the wine bottle A for €7.
- If the amount you indicated you were willing to pay for that wine was less than 7 €, for example € 3. In this situation you will not have to the opportunity to buy the wine.

These examples aim to show you that it is in your interest to think hard about the value you are really willing to pay and mention that and only that amount.

4rd Phase

At this stage you will be asked to complete a questionnaire on the consumption of red wine.

This is all you need to know to carry out your tasks throughout the experience. It remains to add that it is only at the end of the 2nd phase that we will extract the balls and determine the wine and sale price.

If you have any questions or concerns, please do so now.

If you have no questions, you can sign the informed consent on your desk. Only when everyone has finished signing will we start the experiment.

Informed Consent

The following information is provided to enable you to decide whether you want to participate in this study. However, you should be aware that, even if you decide to participate, you are free to withdraw at any time, regardless of participation compensation.

For your participation you will receive a gift card of 5 €.

This study is part of a PhD thesis that aims to analyze how consumers value different types of information when choosing a bottle of red wine.

If you agree to participate in this study, you may have to buy a wine bottle. For this purpose, you will taste three red wines and answer a set of questions. In this study there are no right or wrong answers, only your opinion is important. We ask you to give your utmost attention to each of the questions and answer truthfully to all of them. Your participation in this study is completely anonymous.

If you agree to participate in this study, please sign in the space below.

We appreciate your important contribution to this PhD thesis.

Sincerely,

I, _____, became aware of the research topic and the practical procedure of this study. I was clarified on all aspects that I consider important. I have been informed of the right to refuse to participate without consequences for me. Thus, I declare that I accept to participate in this experience.

Signature _____ Date _____

Treatment A

Combination: **2** ID: _____ Date: ____/____/____ Place: _____

1. Please taste each wine. According to your sensory perception, characterize each wine sample, for the following attributes (tick with X):

| | | Sample number | | |
|---------------------------|------------------|-----------------------|-----------------------|-----------------------|
| | | 445 | 926 | 187 |
| Colour | Very strong | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Strong | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Average | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Weak | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Translucent | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Aromatic Intensity | Very strong | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Strong | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Average | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Weak | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Not detected | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Acid taste | Very strong | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Strong | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Average | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Weak | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Not detected | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Structure | Very full bodied | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Full bodied | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Medium | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Light | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Very light | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

2. In terms of GLOBAL SATISFACTION, how do you rate each of the wine samples you just tasted (mark with an X)?

| | Sample number | | |
|--------------------------|-----------------------|-----------------------|-----------------------|
| | 445 | 926 | 187 |
| Like Extremely | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Like Very Much | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Like Moderately | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Like Slightly | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Neither Like Nor Dislike | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Dislike Slightly | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Dislike Moderately | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Dislike Very Much | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Dislike Extremely | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

3. Please write the sample number in order of your preference (1 = most preferred and 3 = least preferred).

1) _____ 2) _____ 3) _____

4. Please indicate the maximum amount you are willing to pay for a wine bottle (750 mL) for each of the samples you have just tasted?

| Sample number | 445 | 926 | 187 |
|------------------|----------------------|----------------------|----------------------|
| Price (€/bottle) | <input type="text"/> | <input type="text"/> | <input type="text"/> |

5. Please indicate for each region of origin and for each sample the most likely option (tick X for each region of origin).

Sample number: 445

| | Extremely unlikely | Very unlikely | Unlikely | Neither likely nor unlikely | Likely | Very likely | Extremely likely |
|-------------------------|--------------------|---------------|----------|-----------------------------|----------|-------------|------------------|
| Region of Origin | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Vinho Verde | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Douro | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Dão | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lisboa | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Alentejo | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Sample number: 926

| | Extremely unlikely | Very unlikely | Unlikely | Neither likely nor unlikely | Likely | Very likely | Extremely likely |
|-------------------------|--------------------|---------------|----------|-----------------------------|----------|-------------|------------------|
| Region of Origin | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Vinho Verde | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Douro | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Dão | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lisboa | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Alentejo | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Sample number: 187

| | Extremely unlikely | Very unlikely | Unlikely | Neither likely nor unlikely | Likely | Very likely | Extremely likely |
|-------------------------|--------------------|---------------|----------|-----------------------------|----------|-------------|------------------|
| Region of Origin | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Vinho Verde | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Douro | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Dão | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lisboa | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Alentejo | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Combination: 2 ID: _____

Now, you consider the following information about the region of origin for each of the samples in front of you.

| Sample number | Region of origin |
|---------------|------------------|
| 445 | Alentejo |
| 926 | Dão |
| 187 | Douro |

6. Knowing this information, do you want to review the amounts you indicated you are willing to pay? That is, do you keep the same values or would you pay more or less for these wines or for any of these? (**Know that these are the values that we will consider to determine the purchase of wine**)

| | | | |
|----------------------|---|---|---|
| Sample number | 445 | 926 | 187 |
| Price (€/bottle) | <input style="width: 80px; height: 30px;" type="text"/> | <input style="width: 80px; height: 30px;" type="text"/> | <input style="width: 80px; height: 30px;" type="text"/> |

Possibility of Purchase

Combination: **2** ID: _____

At this stage, we will proceed with the extraction of a wine and a selling price. Please complete the table below according to the extraction. (*Know that the price you are willing to pay refers to the last value you indicated for the wine extracted at random*)

| Extracted wine | Extracted sales price (€/bottle) |
|----------------|----------------------------------|
| | |

7. Is the sales price extracted less than or equal to the value mentioned in question 6?

Yes → **PURCHASE**

No → **DO NOT buy**

Treatment B

Combination: **2** ID: _____ Date: ____/____/____ Place: _____

Now, you consider the following information about the region of origin for each of the samples in front you.

| Sample number | Region of origin |
|---------------|------------------|
| 445 | Alentejo |
| 926 | Dão |
| 187 | Douro |

1. Based on the information given, how much do you expect to like each of the wine samples?

| | Region of origin | | |
|--------------------------|-----------------------|-----------------------|-----------------------|
| | Alentejo | Dão | Douro |
| Like Extremely | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Like Very Much | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Like Moderately | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Like Slightly | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Neither Like Nor Dislike | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Dislike Slightly | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Dislike Moderately | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Dislike Very Much | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Dislike Extremely | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Now, please, TASTE each of the samples

2. According to your sensory perception, characterize each wine sample, for the following attributes (mark with X):

| Sample number | | 445 | 926 | 187 |
|---------------------------|------------------|-----------------------|-----------------------|-----------------------|
| Region of origin | | Alentejo | Dão | Douro |
| Colour | Very strong | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Strong | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Average | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Weak | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Translucent | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Aromatic Intensity | Very strong | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Strong | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Average | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Weak | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Not detected | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Acid taste | Very strong | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Strong | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Average | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Weak | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Not detected | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Structure | Very full bodied | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Full bodied | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Medium | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Light | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Very light | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

3. In terms of GLOBAL SATISFACTION, how do you rate each of the wine samples you just tasted (mark with an X)?

| Sample number | 445 | 926 | 187 |
|--------------------------|-----------------------|-----------------------|-----------------------|
| Region of origin | Alentejo | Dão | Douro |
| Like Extremely | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Like Very Much | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Like Moderately | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Like Slightly | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Neither Like Nor Dislike | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Dislike Slightly | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Dislike Moderately | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Dislike Very Much | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Dislike Extremely | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

4. Please write the sample number in order of your preference (1 = most preferred and 3 = least preferred).

2) _____ 2) _____ 3) _____

5. Please indicate the maximum amount you are willing to pay for a wine bottle (750 mL) for each of the samples you have just tasted?

| Sample number | 445 | 926 | 187 |
|------------------|----------------------|----------------------|----------------------|
| Region of origin | Alentejo | Dão | Douro |
| Price (€/bottle) | <input type="text"/> | <input type="text"/> | <input type="text"/> |

Possibility of Purchase

Combination: 2 ID: _____

At this stage, we will proceed with the extraction of wine and selling price. Please complete the table below according to the extraction data. (*Know that the price you are willing to pay refers to the last value you indicated for the wine extracted at random*)

| Extracted wine | Extracted sales price (€/bottle) |
|----------------|----------------------------------|
| | |

6. Is the sales price extracted less than or equal to the value mentioned in question 5?

Yes → **PURCHASE**

No → **DO NOT buy**

Questionnaire about red wine consumption

The following questionnaire is anonymous and confidential. We appreciate that you answer as sincerely as possible. Throughout the questionnaire you will have some questions related to you, which do not aim to identify you but only collect elements that facilitate statistical analysis by groups.

It is very important that you complete the questionnaire to the end. Thank you for your collaboration.

ID: _____

I. Introductory Section

This section includes some questions about your red wine buying and consumption behavior.

1. How often do you consume red wine per week?

- Every day
- Several times
- Once
- Never

2. What occasions do you drink red wine with most often? *(check only one option)*

- Meals
- Outside meals
- Parties or events
- Other

3. For the consumption of red wine, which region of origin do you buy most often? *(check only one option)*

- Vinho Verde
- Douro
- Dão
- Lisboa
- Alentejo
- Other: _____

4. How many bottles of red wine (750 mL) do you usually buy per week?

- 1 or less
- 2-3
- 4 or more

5. How much do you usually spend on alcoholic beverages per week?

- ≤ 4,99 €

- 5,00 € - 9,99 €
- 10,00 € - 14,99 €
- 15,00 € - 49,99 €
- ≥ 50,00 €

6. How much do you usually spend on red wine per week?

- ≤ 4,99 €
- 5,00 € - 9,99 €
- 10,00 € - 14,99 €
- 15,00 € - 49,99 €
- ≥ 50,00 €

7. Where do you buy red wine most often (750 mL)? (check only one option))

- Internet
- Hypermarket
- Wine store
- Producer
- Other. Which? _____

8. What are your 3 favorite red wine regions? Rate from 1 to 3 in order of your preference (1st = most preferred).

- Açores
- Alentejo
- Algarve
- Bairrada
- Beira Interior
- Dão
- Douro
- Lisboa
- Península de Setúbal
- Távora-Varosa
- Tejo
- Trás-os-Montes
- Vinho Verde

9. When you buy a red wine bottle (750 mL) do you look for some information about the wine?

- Yes
- No

9.1. If so, which?

- Food pairing
- Wine history

- Brand
- Medals/Awards
- Price
- Region of origin
- Alcohol Content
- Certified organic
- Winemaker
- Grape variety
- Sensorial profile
- Other: _____

9.2. If so, where do you seek to obtain this information? (check only one option)

- Tasting session
- Family| Friends
- Internet
- Sale point
- Books and Magazines
- Radio|TV
- Label
- Back-label

10. When you buy a bottle of red wine (750 mL), how important are the following factors to you?

| | Not important at all | Low importance | Important | Neutral | Moderately important | Very important | Extremely important |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Region of Origin | <input type="checkbox"/> |
| Sensory profile | <input type="checkbox"/> |
| Food pairing | <input type="checkbox"/> |
| Certified organic | <input type="checkbox"/> |
| Grape variety | <input type="checkbox"/> |
| <i>Label design</i> | <input type="checkbox"/> |
| Bottle form | <input type="checkbox"/> |
| Wine history | <input type="checkbox"/> |
| Winemaker | <input type="checkbox"/> |
| Brand | <input type="checkbox"/> |
| Medals/Awards | <input type="checkbox"/> |
| Quality-price relation | <input type="checkbox"/> |
| Someone's recommendation | <input type="checkbox"/> |
| Alcohol Content | <input type="checkbox"/> |
| QR Code | <input type="checkbox"/> |
| Previous experience | <input type="checkbox"/> |
| Other: _____ | <input type="checkbox"/> |

II. Knowledge section

Following, we present a set of questions that address different contexts and characteristics of wine consumption.

11. **Thinking about your moments of wine consumption**, express your level of agreement for each statement.

| | Totally disagree | Strongly disagree | Disagree | Nether agree or disagree | Agree | Strongly agree | Totally agree |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Subjective knowledge | | | | | | | |
| (1) I feel quite knowledgeable about wine. | <input type="checkbox"/> |
| (2) Among my friends, I'm one of the "experts" on wine. | <input type="checkbox"/> |
| (3) I rarely come across a wine that I haven't heard of. | <input type="checkbox"/> |
| (4) I know pretty much about wine. | <input type="checkbox"/> |
| (5) I do not feel very knowledgeable about wine. | <input type="checkbox"/> |
| (6) Compared to most other people, I know less about wine. | <input type="checkbox"/> |
| (7) When it comes to wine, I really don't know a lot. | <input type="checkbox"/> |
| (8) I have heard about most of the new wines that are around. | <input type="checkbox"/> |
| Opinion leadership | | | | | | | |
| (9) My opinion on wine seems not to count to other people | <input type="checkbox"/> |
| (10) When they choose a wine, people do not turn to me for advice | <input type="checkbox"/> |
| (11) Other people rarely come to me for advice about choosing wine. | <input type="checkbox"/> |
| (12) People that I know pick wine based upon what I have told them | <input type="checkbox"/> |
| (13) I often persuade other people to buy the wine that I like | <input type="checkbox"/> |
| (14) I often influence other people's opinions about wine | <input type="checkbox"/> |
| Opinion seeking | | | | | | | |
| (15) When I consider buying wine I ask other people for advice | <input type="checkbox"/> |
| (16) I do not need to talk to others before I buy a wine | <input type="checkbox"/> |
| (17) I rarely ask other people what wine to buy | <input type="checkbox"/> |
| (18) I like to get others' opinions before I buy a wine | <input type="checkbox"/> |
| (19) I feel more comfortable buying a wine when I have gotten other people's opinions on it | <input type="checkbox"/> |
| (20) When choosing wine, other people's opinions are not important to me | <input type="checkbox"/> |

12. In relation to your knowledge about wine, how do you evaluate yourself?

- Without knowledge
- Knowledge medium
- Very good
- Connoisseurs

13. For the set of questions presented below, indicate the option that you think is the correct one.

13.1. Which of the following is a grape of red wine?

- Alvarinho
- Chardonnay
- Touriga Nacional
- Loureiro
- Don't know

13.2. A peppery character is most associated with which wine?

- Merlot
- Syrah/Shiraz
- Semillion
- Pinot Noir
- Don't know

13.3. Which is not a famous French wine region?

- Bordeaux
- Champagne
- Rheingau
- Alsace
- Don't know

13.4. Which is the most appropriate designation for port wine?

- Still wine
- Fortified wine
- Sparkling wine
- Late Harvest wine
- Don't know

13.5. In 2017, which was the biggest European wine producer (in volume)?

- Spain
- Portugal
- Italy
- France
- Don't know

III. Final Section

IV.

14. Gender

Women

Men

15. Age: _____

16. Professional Situation:

Unemployed

Domestic

Student

Retired

Self-employed

Employee

17. Education level

1st, 2nd, 3rd or 4th year

5th and 6th year

7th, 8th or 9th year

10th, 11th, 12th year

Graduation

Master's

PhD

Other

18. Residence (District)

Aveiro Leiria

Beja Lisboa

Braga Portalegre

Bragança Porto

Castelo Branco Santarém

Coimbra Setúbal

Évora Viana do Castelo

Faro Vila Real

Guarda Viseu

19. Household monthly income

< 580 €

581 € -1 500€

1 501 € -2 500€

- 2 501€ - 3 500 €
- 3 501€ - 4 500 €
- > 4 501 €

20. What is the number of adult persons in your household?

Adult (≥ 18 years old): _____

21. Please indicate how you rate your risk behavior using a scale from “Nothing risky” to “Completely risky”

21.1. In General, you would say that your behavior and the decisions you make are:

- Nothing risky
- Something risky
- Neutral
- Risky
- Completely risky

21.2. In your PROFESSIONAL ACTIVITY, you would say that your behavior and the decisions you make are

- Nothing risky
- Something risky
- Neutral
- Risky
- Completely risky

21.3. Regarding your FINANCES, you would say that your behavior and the decisions you make are:

- Nothing risky
- Something risky
- Neutral
- Risky
- Completely risky

21.4. Regarding your HEALTH, you would say that your behavior and the decisions you make are:

- Nothing risky
- Something risky
- Neutral
- Risky
- Completely risky

INSTRUÇÕES RELATIVAS À REALIZAÇÃO DAS SESSÕES EXPERIMENTAIS

Tratamento A

BEM VINDA/O À EXPERIÊNCIA

Seja bem vinda/o e obrigada por participar no estudo que estamos a realizar.

Este estudo visa compreender melhor a tomada de decisão do consumidor de vinho.

A sua contribuição para o nosso estudo vai-se processar em quatro fases. As instruções para a realização das suas tarefas são simples e ser-lhe-ão explicadas de seguida. Irá receber uma gratificação monetária de 5 Euros pela sua participação. Todas as suas respostas e decisões são anónimas, estando identificado meramente com um número para efeitos de tratamento estatístico.

É absolutamente importante que não fale com os restantes participantes, até que a experiência esteja concluída. Se, em qualquer momento durante a experiência, tiver questões ou problemas, levante a mão e um dos monitores esclarecerá as suas dúvidas. Pensamos que a experiência terá a duração de cerca de uma hora, por isso, certifique-se, por favor, de que pode ficar até ao final. Pedimos ainda que verifique se tem o telemóvel em silêncio.

Vamos agora dar início à explicação de cada fase do estudo.

1ª Fase

Nesta fase ser-lhe-ão apresentados 3 vinhos não identificados e pedido que responda a algumas questões.

2ª Fase

Nesta fase ser-lhe-á dada alguma informação sobre os 3 vinhos que provou anteriormente. Novamente, ser-lhe-á pedido que responda a algumas questões, nomeadamente iremos pedir que indique o valor máximo que está disposto a pagar. Este valor será o considerado para determinar uma possível compra. A forma como a compra se irá proceder será explicada na fase seguinte.

3ª Fase

No final da experiência iremos proceder à possibilidade de compra. Nesta fase iremos proceder na sua presença à seleção aleatória de um dos vinhos (de entre os três que provou) e de um preço de venda.

Como determinar o preço de venda?

O preço de venda irá ser extraído ao acaso na sua presença, num intervalo de números que vai desde 500 até 1200, em incrementos de 100, em que cada um destes números representam centímetros. Por exemplo, 1000 corresponde a 10 euros, 1100 corresponde a 11 euros e 1200 corresponde a 12 euros.

Exemplo:

Imagine que aleatoriamente saiu o vinho A e o número 700. Isto significa que, o preço de venda da garrafa do vinho A será de 7 €.

Neste caso, ocorrerá um dos seguintes acontecimentos:

- Se o valor que indicou estar disposto a pagar por esse vinho foi superior ou igual a 7 €, por exemplo 10 €. Terá de comprar a garrafa do vinho A por 7 Euros.
- se o valor que indicou estar disposto a pagar por esse vinho foi inferior a 7 €, por exemplo 3 €. Nesta situação não terá de comprar o vinho.

Estes exemplos têm como objetivo mostra-lhe que é do seu interesse pensar bem sobre o valor que está mesmo disposto a pagar e mencionar esse e apenas esse valor.

4ª Fase

Nesta fase ser-lhe-á pedido o preenchimento de um questionário sobre o consumo de vinho tinto.

Isto é tudo que precisa de saber para realizar as suas tarefas ao longo da experiência. Resta acrescentar que só no final da 2ª fase é que procederemos à extração das bolas e determinaremos o vinho e preço de venda.

Se tem alguma dúvida ou questão a colocar, por favor faça-o agora.

Se não tem questões, pode assinar o consentimento informado que se encontra em cima da sua secretária. Só quando todos tiverem terminado de assinar é que daremos início à experiência.

INSTRUÇÕES RELATIVAS À REALIZAÇÃO DAS SESSÕES EXPERIMENTAIS

Tratamento B

BEM VINDA/O À EXPERIÊNCIA

Seja bem vinda/o e obrigada por participar no estudo que estamos a realizar.

Este estudo visa compreender melhor a tomada de decisão do consumidor de vinho.

A sua contribuição para o nosso estudo vai-se processar em quatro fases. As instruções para a realização das suas tarefas são simples e ser-lhe-ão explicadas de seguida. Irá receber uma gratificação monetária de 5 Euros pela sua participação. Todas as suas respostas e decisões são anónimas, estando identificado meramente com um número para efeitos de tratamento estatístico.

É absolutamente importante que não fale com os restantes participantes, até que a experiência esteja concluída. Se, em qualquer momento durante a experiência, tiver questões ou problemas, levante a mão e um dos monitores esclarecerá as suas dúvidas. Pensamos que a experiência terá a duração de cerca de uma hora, por isso, certifique-se, por favor, de que pode ficar até ao final. Pedimos ainda que verifique se tem o telemóvel em silêncio.

Vamos agora dar início à explicação de cada fase do estudo.

1ª Fase

Nesta fase ser-lhe-á dada a informação da região de origem dos 3 vinhos que se encontram à sua frente, e pedido que responda a algumas questões.

2ª Fase

Nesta fase ser-lhe-á pedido para provar cada um dos três vinhos e classificar, de acordo com a sua perceção sensorial e nível de preferência. Para cada um dos vinhos, ser-lhe-á pedido que indique, também, o valor máximo que está disposto a pagar. Este valor será o considerado para determinar uma possível compra. A forma como a compra se irá proceder será explicada na fase seguinte.

3ª Fase

No final da experiência iremos proceder à possibilidade de compra. Nesta fase iremos proceder na sua presença à seleção aleatória de um dos vinhos (de entre os três que provou) e de um preço de venda.

Como determinar o preço de venda?

O preço de venda irá ser extraído ao acaso na sua presença, num intervalo de números que vai desde 500 até 1200, em incrementos de 100, em que cada um destes números representam centimos. Por exemplo, 1000 corresponde a 10 euros, 1100 corresponde a 11 euros e 1200 corresponde a 12 euros.

Exemplo:

Imagine que aleatoriamente saiu o vinho A e o número 700. Isto significa que, o preço de venda da garrafa do vinho A será de 7 €.

Neste caso, ocorrerá um dos seguintes acontecimentos:

- Se o valor que indicou estar disposto a pagar por esse vinho foi superior ou igual a 7 €, por exemplo 10 €. Terá de comprar a garrafa do vinho A por 7 Euros.
- se o valor que indicou estar disposto a pagar por esse vinho foi inferior a 7 €, por exemplo 3 €. Nesta situação não terá de comprar o vinho.

Estes exemplos têm como objetivo mostra-lhe que é do seu interesse pensar bem sobre o valor que está mesmo disposto a pagar e mencionar esse e apenas esse valor.

4ª Fase

Nesta fase ser-lhe-á pedido o preenchimento de um questionário sobre o consumo de vinho tinto.

Isto é tudo que precisa de saber para realizar as suas tarefas ao longo da experiência. Resta acrescentar que só no final da 2ª fase é que procederemos à extração das bolas e determinaremos o vinho e preço de venda.

Se tem alguma dúvida ou questão a colocar, por favor faça-o agora.

Se não tem questões, pode assinar o consentimento informado que se encontra em cima da sua secretária. Só quando todos tiverem terminado de assinar é que daremos início à experiência.

Consentimento informado

A seguinte informação é fornecida de forma a permiti-lo(a) decidir se pretende participar no presente estudo. Contudo deve ter conhecimento que, mesmo que decida participar, é livre de desistir a qualquer momento, prescindindo da compensação de participação.

Pela sua participação receberá um cartão de oferta no valor de 5 €.

O presente estudo insere-se no âmbito de uma tese de Doutoramento que visa analisar a forma como os consumidores valorizam diferentes tipos de informação na escolha de uma garrafa de vinho tinto.

Caso aceite participar neste estudo, poderá ter de comprar uma garrafa de vinho. Para o efeito, irá provar três vinhos tintos e responder a um conjunto de questões. Neste estudo não existem respostas certas ou erradas, apenas a sua opinião é importante. Pedíamos-lhe que dedique a sua máxima atenção a cada uma das questões e responda com veracidade a todas elas. A sua participação no presente estudo é totalmente anónima.

Se concordar em participar no presente estudo, por favor assine no espaço abaixo indicado.

Agradecemos o seu importante contributo para esta tese de Doutoramento.

Atentamente,

Eu, _____, tomei conhecimento do tema de investigação e do procedimento prático deste estudo. Fui esclarecido(a) sobre todos os aspetos que considero importantes. Fui informado(a) do direito de recusar de participar sem consequências para mim. Assim, declaro que aceito participar nesta experiência.

Assinatura _____ Data _____

Tratamento A

Combinação: **2** ID: _____ Data: ___/___/____ Local: _____

1. Por favor, **Prove** cada vinho. De acordo com a sua percepção sensorial, caracterize cada uma das amostras de vinho, para os seguintes atributos (assinale com X):

| | | Número da Amostra | | |
|---|-----------------|-----------------------|-----------------------|-----------------------|
| | | 445 | 926 | 187 |
| Cor <i>-Aspeto visual-</i> | Muito forte | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Forte | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Média | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Fraca | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Translúcido | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Intensidade aromática <i>-Olfação- (frutado, floral...)</i> | Muito Forte | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Forte | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Médio | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Fraco | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Não detetado | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Sabor Ácido <i>- Percepção na boca-</i> | Muito Forte | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Forte | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Médio | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Fraco | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Não detetado | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Corpo <i>- Sensação na boca-</i> | Muito encorpado | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Encorpado | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Médio | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Leve | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Muito Leve | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

2. Em termos de SATISFAÇÃO GLOBAL, como avalia cada uma das amostras de vinho que acabou de provar (assinale com X)?

| | Número da Amostra | | |
|---------------------------------|-----------------------|-----------------------|-----------------------|
| | 445 | 926 | 187 |
| Extremamente agradável | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Muito agradável | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Agradável | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Um pouco agradável | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Nem agradável, nem desagradável | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Um pouco desagradável | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Desagradável | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Muito desagradável | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Extremamente desagradável | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

3. Por favor, escreva o número da amostra por ordem da sua preferência (1 = mais preferida e 3 = menos preferida).

3) _____ 2) _____ 3) _____

4. Por favor, indique o valor máximo que está disposto a pagar por uma garrafa de vinho (750 mL) de cada uma das amostras que acabou de provar?

| Número da Amostra | 445 | 926 | 187 |
|-------------------|----------------------|----------------------|----------------------|
| Preço (€/garrafa) | <input type="text"/> | <input type="text"/> | <input type="text"/> |

5. Por favor, indique para cada região de origem e para cada amostra a opção mais provável (assinale com X para cada região de origem).

Número da Amostra: 445

| | Extremamente improvável | Muito improvável | Improvável | Nem provável, nem improvável | Provável | Muito provável | Extremamente provável |
|-------------------------|----------------------------|------------------|------------|---------------------------------|----------|----------------|--------------------------|
| Região de Origem | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Vinho Verde | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Douro | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Dão | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lisboa | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Alentejo | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Número da Amostra: 926

| | Extremamente improvável | Muito improvável | Improvável | Nem provável, nem improvável | Provável | Muito provável | Extremamente provável |
|-------------------------|----------------------------|------------------|------------|---------------------------------|----------|----------------|--------------------------|
| Região de Origem | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Vinho Verde | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Douro | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Dão | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lisboa | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Alentejo | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Número da Amostra: 187

| | Extremamente improvável | Muito improvável | Improvável | Nem provável, nem improvável | Provável | Muito provável | Extremamente provável |
|-------------------------|----------------------------|------------------|------------|---------------------------------|----------|----------------|--------------------------|
| Região de Origem | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Vinho Verde | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Douro | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Dão | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lisboa | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Alentejo | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Combinação: **2** ID: _____

Considere agora, a seguinte informação sobre a região de origem de cada uma das amostras que se encontram à sua frente.

| Número da Amostra | Região de Origem |
|-------------------|------------------|
| 445 | Alentejo |
| 926 | Dão |
| 187 | Douro |

6. Sabendo esta informação, pretende rever os valores que indicou estar disposto a pagar? Isto é, mantém os mesmos valores ou pagaria mais ou menos por estes vinhos ou por algum destes? (*Saiba que são estes os valores que iremos considerar para determinar a compra do vinho*)

| Número da Amostra | 445 | 926 | 187 |
|-------------------|----------------------|----------------------|----------------------|
| Preço (€/garrafa) | <input type="text"/> | <input type="text"/> | <input type="text"/> |

Possibilidade de Compra

Combinação: **2** ID: _____

Nesta fase, iremos proceder à extração do vinho e preço de venda. Por favor, preencha a tabela abaixo de acordo com os dados da extração. *(Saiba que o preço que está disposto a pagar refere-se ao último valor que indicou para o vinho extraído aleatoriamente)*

| Vinho extraído | Preço de venda extraído (€/garrafa) |
|----------------|-------------------------------------|
| | |

7. O preço de venda extraído é **inferior ou igual** ao valor que mencionou na **pergunta 6?**

Sim → **COMPRA**

Não → **Não COMPRA**

Tratamento B

Combinação: **2** ID: _____ Data: ___ / ___ / ___ Local: _____

Considere agora, a seguinte informação sobre a região de origem de cada uma das amostras que se encontram à sua frente.

| Número da Amostra | Região de Origem |
|-------------------|------------------|
| 445 | Alentejo |
| 926 | Dão |
| 187 | Douro |

1. Com base na informação dada, quanto espera gostar de cada uma das amostras de vinho?

| | Região de Origem | | |
|--------------------------|-----------------------|-----------------------|-----------------------|
| | Alentejo | Dão | Douro |
| Gostar Extremamente | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Gostar muito | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Gostar moderadamente | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Gostar ligeiramente | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Nem gostar nem desgostar | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Desgostar ligeiramente | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Desgostar moderadamente | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Desgostar muito | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Desgostar Extremamente | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Agora, por favor, **PROVE** cada uma das amostras.

2. De acordo com a sua percepção sensorial, caracterize cada uma das amostras de vinho, para os seguintes atributos (assinale com X):

| Número da Amostra | | 445 | 926 | 187 |
|--|-----------------|-----------------------|-----------------------|-----------------------|
| Região de Origem | | Alentejo | Dão | Douro |
| Cor <i>-Aspeto visual-</i> | Muito forte | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Forte | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Média | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Fraca | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Translúcido | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Intensidade aromática <i>-Olfacção- (frutado, floral...)</i> | Muito Forte | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Forte | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Médio | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Fraco | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Não detetado | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Sabor Ácido <i>- Percepção na boca-</i> | Muito Forte | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Forte | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Médio | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Fraco | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Não detetado | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Corpo <i>- Sensação na boca-</i> | Muito encorpado | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Encorpado | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Médio | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Leve | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Muito Leve | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

3. Em termos de SATISFAÇÃO GLOBAL, como avalia cada uma das amostras de vinho que acabou de provar (assinale com X)?

| Número da Amostra | 445 | 926 | 187 |
|---------------------------------|-----------------------|-----------------------|-----------------------|
| Região de Origem | Alentej | | |
| | o | Dão | Douro |
| Extremamente agradável | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Muito agradável | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Agradável | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Um pouco agradável | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Nem agradável, nem desagradável | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Um pouco desagradável | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Desagradável | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Muito desagradável | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Extremamente desagradável | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

4. Por favor, escreva o número da amostra por ordem da sua preferência (1 = mais preferida e 3 = menos preferida).

4) _____ 2) _____ 3) _____

5. Por favor, indique o valor máximo que está disposto a pagar por uma garrafa de vinho (750 mL) de cada uma das amostras que acabou de provar?

| Número da Amostra | 445 | 926 | 187 |
|-------------------|----------------------|----------------------|----------------------|
| Região de Origem | Alentejo | Dão | Douro |
| Preço (€/garrafa) | <input type="text"/> | <input type="text"/> | <input type="text"/> |

Possibilidade de Compra

Combinação: **2** ID: _____

Nesta fase, iremos proceder à extração do vinho e preço de venda. Por favor, preencha a tabela abaixo de acordo com os dados da extração. *(Saiba que o preço que está disposto a pagar refere-se ao último valor que indicou para o vinho extraído aleatoriamente)*

| Vinho extraído | Preço de venda extraído (€/garrafa) |
|----------------|-------------------------------------|
| | |

8. O preço de venda extraído é **inferior ou igual** ao valor que mencionou na **pergunta 5?**

Sim → **COMPRA**

Não → **Não COMPRA**

Questionário sobre o consumo de vinho tinto

O questionário que se segue é anónimo e confidencial. Agradecemos que responda com a maior sinceridade possível. Ao longo do questionário terá algumas questões relativas a si, que não visam identifica-lo(a) mas apenas recolher elementos que facilitem a análise estatística por grupos.

É muito importante que preencha o questionário até ao fim. Obrigada pela sua colaboração.

ID: _____

v. Secção Introdutória

Esta secção inclui algumas questões sobre o seu comportamento de compra e consumo de vinho tinto.

1. Por semana, com que frequência consome vinho tinto?

- Regularmente
- Várias vezes
- Uma vez

2. Em que ocasiões consome vinho tinto com maior frequência? (*assinale uma única opção*)

- Refeições
- Fora das refeições
- Festas ou eventos
- Outro

3. Para o consumo de vinho tinto, qual a região de origem que compra com mais frequência? (*assinale uma única opção*)

- Vinho Verde
- Douro
- Dão
- Lisboa
- Alentejo
- Outro: _____

4. Quantas garrafas de vinho tinto (750 mL) costuma comprar por semana, em média?

- 1 ou menos
- 2-3
- 4 ou mais

5. Quanto costuma gastar em bebidas alcoólicas, em média, por semana?

- ≤ 4,99 €

- 5,00 € - 9,99 €
- 10,00 € - 14,99 €
- 15,00 € - 49,99 €
- ≥ 50,00 €

6. Quanto costuma gastar, em média, em vinho tinto por semana?

- ≤ 4,99 €
- 5,00 € - 9,99 €
- 10,00 € - 14,99 €
- 15,00 € - 49,99 €
- ≥ 50,00 €

7. Em que local costuma comprar, com maior frequência, o vinho tinto (750 mL)? (assinale uma única opção)

- Internet
- Hipermercado
- Garrafeira
- Diretamente ao produtor
- Outro. Qual? _____

8. Quais são as suas 3 regiões vitivinícolas favoritas de vinho tinto? Classifique de 1 a 3 por ordem da sua preferência (1º = mais preferida).

- Açores
- Alentejo
- Algarve
- Bairrada
- Beira Interior
- Dão
- Douro
- Lisboa
- Península de Setúbal
- Távora-Varosa
- Tejo
- Trás-os-Montes
- Vinho Verde

9. Quando compra uma garrafa de vinho tinto (750 mL) procura algum tipo de informação sobre o vinho?

- Sim
- Não

9.1. Se sim, qual ou quais?

- Harmonização com a comida
- História do vinho
- Marca

- Medalhas/ Prémios/Ranking de revistas
- Preço
- Região de Origem
- Teor Alcoólico
- Certificação Biológica
- Enólogo
- Castas
- Perfil sensorial
- Outro: _____

9.2. Se sim, onde procura obter essa informação? (assinale uma única opção)

- Ações de degustação
- Família | Amigos
- Internet
- Pontos de venda
- Livros e Revistas especializadas
- Rádio | Televisão
- Rótulo
- Contrarrótulo

10. Quando compra uma garrafa de vinho tinto (750 mL) qual a importância que dá aos seguintes fatores?

| | Nada importante | Pouco importante | Importante | Indiferente | Moderadamente importante | Muito importante | Extremamente importante |
|---------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Região de origem | <input type="checkbox"/> |
| Perfil sensorial | <input type="checkbox"/> |
| Harmonização com a comida | <input type="checkbox"/> |
| Certificação biológica | <input type="checkbox"/> |
| Castas | <input type="checkbox"/> |
| <i>Design</i> do rótulo frontal | <input type="checkbox"/> |
| Forma da garrafa | <input type="checkbox"/> |
| História do vinho | <input type="checkbox"/> |
| Enólogo | <input type="checkbox"/> |
| Marca | <input type="checkbox"/> |
| Medalhas/Prémios | <input type="checkbox"/> |
| Relação qualidade - preço | <input type="checkbox"/> |
| Recomendação de alguém | <input type="checkbox"/> |
| Teor Alcoólico | <input type="checkbox"/> |
| QR Code | <input type="checkbox"/> |
| Ter provado antes | <input type="checkbox"/> |
| Outro: _____ | <input type="checkbox"/> |

VI. Secção de conhecimento

De seguida apresentamos-lhe um conjunto de questões que abordam diversos contextos e características de consumo de vinho.

11. **Pensando nos seus momentos de consumo de vinho** expresse para cada afirmação o seu nível concordância.

| | Discordo totalmente | Discordo muito | Discordo | Nem concordo nem discordo | Concordo | Concordo muito | Concordo totalmente |
|---|--------------------------|--------------------------|--------------------------|---------------------------|--------------------------|--------------------------|--------------------------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Conhecimento Subjetivo | | | | | | | |
| (21) Sinto-me bastante bem informado sobre o vinho. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (22) Entre os meus amigos, sou um dos “especialistas” do vinho. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (23) Raramente me deparo com um vinho que não ouvi falar. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (24) Eu sei muito sobre vinho. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (25) Eu não me sinto muito bem informado sobre vinho. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (26) Comparando com a maioria das outras pessoas, eu sei menos sobre vinho. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (27) Quando se trata de vinho, eu realmente não sei muito. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (28) Já ouvi falar sobre a maioria dos novos vinhos que surgiram. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Liderança de opinião | | | | | | | |
| (29) A minha opinião sobre o vinho parece não contar para as outras pessoas. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (30) Quando escolhem um vinho, as pessoas não me consultam. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (31) Outras pessoas raramente me procuram para conselhos sobre como escolher um vinho. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (32) Pessoas que conheço escolhem o vinho com base no que lhe disse. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (33) Costumo persuadir outras pessoas a comprar o vinho que eu gosto. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (34) Eu frequentemente influencio as opiniões de outras pessoas sobre o vinho. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Procura de opinião | | | | | | | |
| (35) Quando considero comprar vinho, peço conselhos a outras pessoas. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (36) Eu não preciso de falar com outras pessoas antes de comprar um vinho. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (37) Raramente pergunto a outras pessoas que vinho comprar. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (38) Eu gosto de obter a opinião de outras pessoas antes de comprar um vinho. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (39) Sinto-me mais confortável comprar um vinho quando tenho a opinião de outras pessoas. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (40) Ao escolher o vinho, a opinião de outras pessoas não é importante para mim. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

12. Em relação ao conhecimento que tem sobre o vinho como se autoavalia?

- Sem conhecimento
- Um pouco conhecedor
- Muito conhecedor
- Especialista

13. Para o conjunto de questões apresentadas de seguida, indique a opção que pensa ser a correta.

13.1. Qual dos seguintes castas é tinto?

- Alvarinho
- Chardonnay
- Touriga Nacional
- Loureiro
- Não conheço

13.2. Que casta está mais associada a uma nota de especiarias?

- Merlot
- Syrah
- Semillion
- Pinot Noir
- Não conheço

13.3. Qual destas regiões não é uma região vitivinícola francesa?

- Bordeaux
- Champagne
- Rheingau
- Alsace
- Não sei

13.4. Qual a designação mais adequada para o vinho do Porto?

- Vinho tranquilo
- Vinho licoroso
- Vinho espumante
- Vinho *Late Harvest*
- Não sei

13.5. Em 2017, qual foi o maior produtor (em quantidade) de vinho a nível europeu?

- Espanha
- Portugal
- Itália
- França
- Não sei

VII. Secção Final

14. Género:

- Feminino
- Masculino

15. Idade: _____

16. Situação perante o trabalho:

- Desempregado(a)
- Doméstico(a)
- Estudante
- Reformado(a)
- Trabalhador(a) por conta própria
- Trabalhador(a) por conta de outrem

17. Habilitações escolares

- 1º, 2º, 3º ou 4º ano
- 5º e 6º ano
- 7º, 8º ou 9º ano
- 10º, 11º, 12º ano
- Licenciatura
- Mestrado
- Doutoramento
- Outro

18. Residência (Distrito):

- | | | | |
|----------------|--------------------------|------------------|--------------------------|
| Aveiro | <input type="checkbox"/> | Leiria | <input type="checkbox"/> |
| Beja | <input type="checkbox"/> | Lisboa | <input type="checkbox"/> |
| Braga | <input type="checkbox"/> | Portalegre | <input type="checkbox"/> |
| Bragança | <input type="checkbox"/> | Porto | <input type="checkbox"/> |
| Castelo Branco | <input type="checkbox"/> | Santarém | <input type="checkbox"/> |
| Coimbra | <input type="checkbox"/> | Setúbal | <input type="checkbox"/> |
| Évora | <input type="checkbox"/> | Viana do Castelo | <input type="checkbox"/> |
| Faro | <input type="checkbox"/> | Vila Real | <input type="checkbox"/> |
| Guarda | <input type="checkbox"/> | Viseu | <input type="checkbox"/> |

19. Rendimento Mensal Líquido médio do agregado familiar:

- Inferior a 580 €
- Entre 581 € a 1 500€
- Entre 1 501 € a 2 500€
- Entre 2 501€ - 3 500 €
- Entre 3 501€ - 4 500 €
- Mais de 4 501 €

20. Qual o número de pessoas adultas do agregado familiar?

Adultos (≥ 18 anos): _____

21. Por favor, indique como classifica o seu comportamento face ao risco usando uma escala de “ Nada arriscada” a “Completamente arriscado”.

21.1. Em GERAL, diria que o seu comportamento e as decisões que toma são:

- Nada arriscado
- Algo arriscado
- Neutro
- Arriscado
- Completamente arriscado

21.2. Na sua ATIVIDADE PROFISSIONAL, diria que o seu comportamento e as decisões que toma são:

- Nada arriscado
- Algo arriscado
- Neutro
- Arriscado
- Completamente arriscado

21.3. Relativamente às suas FINANÇAS, diria que o seu comportamento e as decisões que toma são:

- Nada arriscado
- Algo arriscado
- Neutro
- Arriscado
- Completamente arriscado

21.4. Relativamente à sua SAÚDE, diria que o seu comportamento e as decisões que toma são:

- Nada arriscado
- Algo arriscado
- Neutro
- Arriscado
- Completamente arriscado