MILLENNIAL ATTRACTION AND PERCEPTION OF WINE LABEL DESIGN

A THESIS

Presented to

The Faculty of the Department of Economics and Business
The Colorado College

In Partial Fulfillment of the Requirements for the Degree

Bachelor of Arts

By

Monica Mueller

May 2013
The design of a product is the first impression that a company makes on a consumer. A good design can attract consumers to the product, portray the company’s brand, and add value to the product. Therefore, the exterior design of a product is imperative to the perception of the product, and overall success in the market. In the crowded global wine industry, consumers usually judge the wine solely by its label. For a new generation of consumers, the millennial generation, it is imperative to understand their preferences in these labels. Looking at modern and classically designed labels, this study investigates what influences the millennial generation’s preference of label design. Qualitative and quantitative data from a wine tasting finds that the millennial generation’s initial visual perception is driven by their previous experience with wine, while their actual preference is driven by unconscious design likability.

**KEYWORDS:** (Wine, Consumer Behavior, Behavioral Economics, Design)
# TABLE OF CONTENTS

**ABSTRACT**

1 INTRODUCTION

1.1 Literature Review

1.1.1 Design Preferences

1.1.2 Wine Label Design

1.1.3 Millennial Generation

1.2 Conclusion

2 THEORY

2.1 Demographics

2.2 Conspicuous Consumption

2.3 Risk Behaviors

2.4 Unconscious Preferences

2.5 Conclusion

3 DATA

3.1 Data Set and Sources

3.2 Methodology

3.3 Model

3.4 Conclusion

4 RESULTS

4.1 Initial Quality and Value Regression Analysis

4.2 Post-Tasting Quality and Value Regression Analysis

4.4 Limitations

4.3 Conclusion

5 CONCLUSIONS

A WINE PREFERENCES INSTRUCTIONS AND QUESTIONNAIRE
LIST OF TABLES

3.1 Described Dependent Variables......................................................... 24
3.2 Summary Statistics............................................................................. 29
4.1 Initial Perceived Value Regression Results....................................... 34
4.2 Initial Perceived Quality Regression Results................................... 35
4.3 Post-Tasting Perceived Value Regression Results.......................... 38
4.4 Post-Tasting Perceived Quality Regression Results......................... 39
LIST OF FIGURES

1.1 Comical Classification of Wine Labels ......................................................... 8
2.1 Demand Curve of a Veblen Good .............................................................. 14
2.2 Unconscious Associations......................................................................... 17
3.1 Socioeconomic Status ................................................................................ 21
3.2 Ethnicity ..................................................................................................... 22
3.3 Wine Knowledge ......................................................................................... 22
3.4 Little Black Dress ....................................................................................... 23
3.5 Paso Creek .................................................................................................. 23
3.6 Tolosa ........................................................................................................ 23
3.7 Rodney Strong ............................................................................................ 23
3.8 Louis M. Martini .......................................................................................... 23
3.9 Chateau St Jean ........................................................................................... 23
3.10 Wine Tasting Setup .................................................................................... 25
4.1 Favorite Ranked Wines ................................................................................ 31
**LIST OF EQUATIONS**

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>Perceived Visual Value</td>
<td>12</td>
</tr>
<tr>
<td>2.2</td>
<td>Perceived Visual Quality</td>
<td>12</td>
</tr>
<tr>
<td>2.3</td>
<td>Perceived Taste Value</td>
<td>12</td>
</tr>
<tr>
<td>2.4</td>
<td>Perceived Taste Quality</td>
<td>12</td>
</tr>
<tr>
<td>3.1</td>
<td>Perceived Visual Value</td>
<td>28</td>
</tr>
<tr>
<td>3.2</td>
<td>Perceived Visual Quality</td>
<td>28</td>
</tr>
<tr>
<td>3.3</td>
<td>Perceived Taste Value</td>
<td>28</td>
</tr>
<tr>
<td>3.4</td>
<td>Perceived Taste Quality</td>
<td>28</td>
</tr>
</tbody>
</table>
CHAPTER I
INTRODUCTION

The age-old saying “never judge a book by the cover” is bad advice. The marketing industry has created a lens for consumers to judge from, and ignoring extrinsic designs would be detrimental to a consumer’s knowledge. The external design of any product is the first chance a company has to draw a customer in. The emotional connection between the consumer and product design is a huge feat for marketers and can lead to loyal customers (Norman, 2002). Therefore, conscious design in products is imperative.

Virtually every object you encounter on a daily basis is designed in some sense. Whether to satisfy the engineer, the manufacturer, or the consumer, some thought needs to go into the design. Arbitrary design without knowledge of the consumer is taboo in the marketing world (Bloch, 1995). To be successful, products have to be visually stimulating, have successful advertising, and represent the brand in order to woo the customer into purchase. Simply following the latest design trend won’t lead to a successful product launch. So, what kind of design makes it attractive to a consumer?

There is extensive research about specific marketing tactics, but not much is known about the specifics of design that attracts a new consumer. In addition, research is needed on how perceptions of quality are formed and how they influence a consumer’s perception of the product’s value and the eventual purchase choice (Rao, 1989). This thesis aims to
explore the following question: How does the consumer’s design preference influence his/her perception of the quality and value of wine, both before purchase and after tasting?

The design on wine labels is the ideal research subject because the wine industry is extremely crowded, giving the consumer a wide range of varieties to choose from. Therefore, there is low brand recognition, and therefore low biases from the unknowledgeable consumer. Without brand recognition, little can be known about the product inside the bottle. Therefore, the design of the label is the main deciphering factor (Lunardo, 2007).

More research is needed because wine consumption dramatically increased in the past decade. From 1995 to 2005, per capita consumption nearly doubled from 1.77 to 2.37 gallons. In 2005, 39% of Americans preferred to drink wine instead of beer and liquor (Barber, 2008). The growing industry leads to a crowded marketplace where new consumers are essential. The baby boomer generation currently consumes a larger quantity of wine than that of any other population (Thach & Olsen, 2006). Their love of wine influences their children, the millennials, making the millennial generation a new target audience for wine makers.

The millennial generation is defined from the population born between 1982 and 1996. With around 80 million of them in US alone, they account for $1 trillion in buying power. So naturally, they would be a great consumer population for marketers to tap early (Wilson, 2012). In the wine industry, millennials are relatively unknowledgeable and therefore sensitive to extrinsic cues such as label design (Thach & Olsen, 2006). Wine producers acknowledge the new generation’s lack of knowledge and therefore create
packaging that is as important as the product itself (Barber, 2008). Since the visual label is the first sensory interaction the new consumer has, analyzing how millennials interpret the label is vital to gain the new generation of customers (Teague, 2011).

For the average consumer, the label is the first source of information to help make a purchase decision. The beauty and mystery of wine is that the majority of its attributes can only be accessed during consumption. Therefore, unknowledgeable consumers must rely on extrinsic factors to make their decision (Lockshin & Hall, 2010). With the large influx of new wine consumers, it is essential to know the style and elements of a wine label that attract the millennial generation of wine drinkers. Specifically, how does a consumer’s design preference influence his/her perception of the quality and value of wine, both before and after tasting?

To investigate this question, a wine tasting was utilized to gather both qualitative and quantitative data. The data collected from the wine tasting explored how modern or classical labels affect the consumer’s perception of the wine’s quality, value, and overall likeability. The specific extrinsic cues consumers rely on while deciding on wine are the vintage, region, price per bottle, grape varietal, brand, wine packaging, risk adverse, and their general knowledge about wine (Verdu, 2004). Therefore, each of the extrinsic cues was controlled for in the experiments, with classical label designs and modern label designs as the only variable.

To test the perception of the wine based on the label design, the participant was deceived. Unbeknownst to the participant, the wine in all 6 bottles was the same. The participant answered a series of questions regarding their perception and preference of the wine before and after tasting. The data collected explored the perceived quality, value,
likelihood of purchase, and general preference of the wine based on classical or modern labels. This experiment helps to understand millennial consumer preferences in label design and to see how the aesthetics affect the consumer subconsciously in their perception of the wine.

**Literature Review**

Design preferences in the wine industry tend be a guessing game. There are countless variables leading to a consumer’s preference, which leads to uncertain results (Creusen, 2011). However on closer examination, trends do exist in the literature about these preferences, and there is a definite correlation for wine labels affecting a purchase decision (Garber Jr., 1995). The proceeding literature review section describes the theories of consumer design preferences and the variables that affect those preferences. Then, this section connects research to wine industry marketing, and highlights demographics of the impending target market for the wine industry.

**Design Preferences**

Arguably, the most important characteristic of a product is its exterior form and design (Bloch, 1995). It is the producer’s initial impression on a consumer to communicate information about the company, brand, and price. The most prominent sensory system in people is their visual system (Hekkert, 2006). Therefore, in cluttered markets such as the wine industry, it is imperative to stand out using design. It is no wonder that 60% of consumer respondents considered design as the most important determinant of new product performance (Bloch, 1995). However, design can’t be created arbitrarily. Bloch’s research (1995) shows that ideal design form is one that can evoke positive beliefs, positive emotions, and a response from the target market. In
addition, traditional marketing theory defines a product as a collection of benefits that satisfies a consumer’s needs (Barber, 2008).

The ideal design form is understood in levels of cognitive experience: the aesthetic, understanding, and emotional response. Hekkert (2006) argues that aesthetics are the mode to pleasure the senses. The word aesthetics is derived from the Greek word \textit{aesthesis}, which refers to sensory perception and understanding. Over time, the meaning morphed into gratification of the senses. Applying the idea of aesthetics to a product experience helps to understand the full experience of consumer attention behavior. The consumer’s product experience consists of the degree to which senses are gratified, the interpreted meanings of that product, and the emotion response provoked by the product (Hekkert, 2006). Specifically, a consumer is more involved with their surroundings when a memory from a previous experience is triggered, or when the consumer feels personal relevance, importance, interest, or any type of physiological arousal (Celsi & Olson, 1988). Great design that encourages these psychological effects is not easy.

A simple formula for successful design and marketing does not exist. There are countless confounding factors that make marketing an art instead of a science. Each consumer has his/her own tastes and preferences that affect their response to design. These preferences can stem from cultural influences, social settings, prior experiences, and a consumer’s personality (Bloch, 1995). However, Hekkert proposes that there are indeed simple principles that can predict and explain a person’s aesthetic responses. The first principle is using the minimum amount of means to create maximum impact in design. Other important principles are having unity in variety, ordering principles of grouping, contrast, closure, and isolation (Hekkert, 2006). Many scholars suggest that
repetition specifically plays a key role in developing a relationship with a product (Veryzer, 1999). Taken from the principles, the viewer’s tastes and awareness are large factors, creating yet another personal unconscious aspect. Therefore, design principles can be broken down, but the viewer’s aesthetic tastes themselves vary, and preferences are frequently unconscious based on unknown factors (Gladwell, 2005).

The human face is a great example of unconscious preferences in aesthetics. In one of his early studies, Lewicki (1990) points out that people can’t articulate the basic proportion of the human face, but are very sensitive to when those proportions are off. Our concept of what is visually beautiful stems from this. While the proportions stay constant, perceptions of what is beautiful, stylish, or desirable can be completely altered simply with time (Veryzer, 1999).

There is a large body of research that supports changing design tastes based on level of exposure and repetition. Cox and Cox (2002) proved with their experiment that consumers are initially drawn to more simplistic designs. However, through repetition of exposure the consumer’s brain breaks down more complex designs into patterns, resulting in a preference towards more complex design (Cox & Cox, 2002).

**Wine Label Design**

In order to fully understand consumer preferences, it is vital for the marketing industry to understand the style preferences for a new generation (Fountain, 2011). In the label industry, every design element counts. With the increasing competition and challenges in the global wine industry, accurate marketing is essential to make a bottle stand out on the shelf. Between choosing the colors and shape of wine label, to obtaining a balance between complex and simple, no detail can be overlooked. The colors on a
wine label have subliminal meanings that are a fundamental tool in marketing strategy communication (Mello & Pires, 2009). The initial element that humans notice is the color on a design. Colors are psychologically communicated, providing the consumer a mental association. For example, orange is associated with warmth and energy, while green conveys peacefulness (Drews, 2010). Pastel colors on a label should signal high quality according to Mello and Pires’s study (2009). While colors have an effect on consumer’s purchases, Mello and Pires could not find a clear preference for specific color preferences among consumers. However, consumers were attracted to specific combinations of color and label shape when they correlated with each other (Mello & Pires, 2009).

Top Napa Valley wineries, like Spottswoode and Silver Oak, hire designers to ensure that the label design perfectly represents the winery. Three years and $100,000 later, they have the perfect piece of work to aid the winery’s reputation. Ideally, a wine label expresses the wine’s personality, the winemaker’s point of view, and the physical vineyard where the wine was crafted (Teague, 2011). According to Chuck House, founder of Icon Labels, “the label has to suit the wine and the wine has to be at home in the bottle” (Teague, 2004). With all the money and effort that goes into a 3x5 inch display, the target market response should be positive. However, the graphic designers and wine consumers have little communication between them, creating an uncertain market for how the wine label will be perceived (Crilly, Moultrie, & Clarkson, 2004).
The type of imagery used significantly effects how the consumer perceives the bottle of wine. The wine label can be used to depict the target market, set a mood, or provide credibility. The styles of imagery used to communicate a meaning include illustrations, photographs, symbols, and text (Drews, 2010). The effectiveness of the imagery greatly depends on the designer, and how the consumer perceives that image. Latkiewicz (2011) broke down the imagery into specific design styles shown in figure 1.1 to aid in his personal understanding of which label designs he preferred when tasting wines. Latkiewicz concluded that his personal preference of wine was greatly based on

FIGURE 1.1
COMICAL CLASSIFICATION OF WINE IMAGERY

SOURCE: Latkiewicz, 2011
how much he liked the design. The non-academic research influences the hypothesis’s methodology to determine if and how the correlation between design and perceived quality is valid.

**Millennial Generation**

The baby-boomer generation is known to be the largest population of wine drinkers. But now that a large percentage of the offspring (known as the millennials, born between 1982 and 1996) are legal to drink, there is a flourishing target audience waiting to be tapped. The millennial consumers stand strong at 80 million people and $1 trillion in spending power (Wilson, 2012). From Wilson’s market research, the millennial generation is known to be both brand conscious and financially savvy. They want consistent quality, fair price, and are attracted to more innovative design. The millennials perceive wine as a way to relax socially and with food (Wilson 2012). From Thach and Olsen’s study, the wine marketing focus should portray wine as being more fun and less pretentious (Thach & Olsen, 2006). There is evidence in the US that the millennial generation views wine as a ‘sophisticated’ and ‘classy’ drink that is used to impress friends. The sophisticated image leads to the millennials’ lack of confidence in buying wine and knowing good wines. The lack of purchase confidence leads unknowledgeable drinkers to assume higher prices mean higher quality (Fountain, 2011).

**Conclusion**

The literature about good design, wine label preferences, and the millennial generation is vast, but does not paint a good enough picture for exact preferences in label design. The literature shows what millennials generally prefer in design, but not how their subconscious reacts to the types of design, ultimately affecting their purchasing
decision. The literature is missing specifics about how the new generation of consumers will interpret different types of label design, and how it will affect their initial and overall preference of the quality and value of the wine. Therefore, this thesis aims to fill the gap in the literature. The elusive nature of aesthetics in label design and perception in the literature leads to the final hypothesis: What types of design attract new consumers to wine and how does the design affect their initial and actual perception of the wine? The specific types of label design this thesis looks at are modern versus classical.

Chapter II of this thesis discusses relevant theories relating to concepts found in the literature. Chapter III presents the relevant data gathered to prove the hypothesis. Chapter IV applies the data and theory presented to the hypothesis, and analyses the application. Chapter V provides conclusions based on the data, and recommends further research.
CHAPTER II
THEORY

The theory chapter explains consumer preferences and perceptions of wine by presenting this thesis’s theory, and justifies it with other relevant theories. The chapter starts by explaining the theory of utility maximization, and how it relates to answering this thesis’s hypothesis. Next, the effects of a consumer’s demographic are explained pertaining to the overarching theory. Conspicuous consumption and risk aversion theories also effect the decision of purchasing a bottle of wine. Finally, the chapter explores behavioral economic theories about how unconscious preferences explain design preferences and consumer perceptions. The theories presented will create a framework to test the hypothesis and ultimately come to a conclusion in the final chapter.

In order to answer the thesis’s hypothesis, the proposed theory narrows down the types of design into either classical design or modern design. Classical design is characterized by script typeface, vineyard or château imagery, and muted color schemes. Geometrical shapes, bold and/or contrasting colors, and unique use of imagery describe modern label designs. Based on previous research and the following theories, this thesis postulates that unknowledgeable consumers are more attracted to modern labels, and therefore more likely to purchase them. With modern labels, their utility will be maximized, risk minimized, and unconscious preferences satisfied. Because of the initial attraction, modern labels are associated with being of higher quality and more expensive.
The perception of the label’s high quality and valuable nature translates to the consumer’s perception of the wine itself. To prove this, regressions based on the quality and value before and after were run, with the significant variables taken into account. The equations used in the regression were:

\[ PVV = \alpha + \sum \beta_{i\text{label}} + \sum \beta_{jX} + \sum \beta_{t\text{time}} + \varepsilon \]  

(2.1)

\[ PVQ = \alpha + \sum \beta_{i\text{label}} + \sum \beta_{jX} + \sum \beta_{t\text{time}} + \varepsilon \]  

(2.2)

\[ PTV = \alpha + \sum \beta_{i\text{label}} + \sum \beta_{jX} + \sum \beta_{t\text{time}} + \varepsilon \]  

(2.3)

\[ PTQ = \alpha + \sum \beta_{i\text{label}} + \sum \beta_{jX} + \sum \beta_{t\text{time}} + \varepsilon \]  

(2.4)

Where \( \alpha \) is the constant, \( \text{label} \) is the design style, \( X \) is the demographic data for each participant, and \( \varepsilon \) is the error term. Equation 2.1 determines the perceived visual value of the wine; 2.2 determines the perceived visual quality; 2.3 determines the perceived value after tasting; 2.4 determines the perceived quality after tasting. In the following sections, specific economic theories and variables are explained to justify why this thesis’s theory and equations are accurate. The equations determine the perceived quality and value of wine based on the label design while taking other significant variables about the consumer into account.
Demographics

The major demographic factors that are taken into consideration for this thesis includes: age, gender, and wine knowledge. Various studies, such as Thach and Olsen (2006), Barber (2008), Wolf (2007), and Forbes, Cohen, and Dean (2010), look at the effects of these demographics on wine consumer behavior, researching effects of age, gender, and socio-economic class. To stay relevant with changing demographics is it important for label designers to understand different demographics’ preferences.

The Baby Boomer generation is the current main target consumer for the wine industry. However, now that a new generation is coming of age, wine marketers must re-think their design strategy (Wolf, 2007). Thach & Olsen’s (2006) theory states that the Millennial Generation is more attracted to fun, bright, stylish and unique labels. Therefore the Millennial Generation’s utility is maximized when purchasing a ‘fun’ wine label design, which would fall under the hypothesis’s modern design category. On the other hand, Baby Boomers are inclined to spend more on a bottle of wine than the millennial generation, so Baby Boomers’ utility is maximized when buying expensive or expensive-looking wine. For both generations, an “eye-catching” design proves to be attractive to purchase, but what catches their eye differs (Wolf, 2007). Therefore, the new purchasers of wine are more attracted to modern labels of wine, believing they are more expensive and of higher quality because of inherent personal preferences in their demographic.

Wine knowledge is usually correlated with age and therefore drinking experience. Recognizing brands, origins, and grape types will have an effect on a consumer’s preferences, and influence their wine choice (Barber, 2008). If a consumer tastes multiple
different brands and grapes of wine, with time the consumer realizes his/her preferred wine, and knows what to purchase. On the other hand, if a consumer rarely purchases wine, s/he has little to base his/her decision on. The lack of knowledge leads the consumer to rely solely on the label to minimize his/her risk of purchasing a bad bottle of wine. Therefore, the most accurate data without biases will be from a consumer with little to no knowledge of wine, which is why the millennial generation is the target of this thesis.

**Conspicuous Consumption**

Thorstein Veblen’s theory of conspicuous consumption plays a large role in influencing the purchase of wine. Conspicuous consumption relates to the behavior of buying particular goods in order to show off one’s wealth. The consumer purchases goods in order to artificially obtain a higher socio-economic status. In addition, individuals emulate other individuals that have a higher socioeconomic status in order to obtain the same high status. The goods being consumed in this theory are called Veblen goods. A good is considered a Veblen Good when the demand of a good is positively correlated with higher prices and uniqueness (Trigg, 2001), as shown in figure 2.1.

**FIGURE 2.1**

DEMAND CURVE OF A VEBLEN GOOD

\[\text{SOURCE: Jordaan 2012}\]
The theory of conspicuous consumption is especially true in the wine industry. Consumers purchasing wine, especially as a gift, choose a bottle based on a high, impressive price point. However, wine is a unique type of Veblen Good. The price of a bottle to the unknowledgeable consumer is not obvious without the price tag, so consumers have to rely on the extrinsic cues that are perceived as expensive looking. Because of conspicuous consumption, this thesis’s theory is that labels with an expensive-looking design positively correlate with the consumer’s perceived quality of wine, which correlates with their likelihood to purchase. Conspicuous consumption creates a status hierarchy that makes consumers unsure of their purchases, which influences their purchase decision based on their level of risk aversion.

**Risk Behaviors**

Consumers typically fall under the category of risk averse, risk loving, or risk neutral. The perceived risk stems from the theory of conspicuous consumption, where consumers want to be seen as high on the social hierarchy as possible. Purchasing a cheap bottle of wine, or cheap-looking bottle is therefore risky for one’s social status. Women are particularly found to be the most risk averse (Jianakoplos & Bernasek, 1998). Since women are the primary consumers of wine, their risk aversion affects the wine industry.

The perceived risk increases when buying a bottle of wine for a friend, due to conspicuous consumption theory. Therefore, the woman consumer uses extrinsic cues to lower the risk. The extrinsic cues are largely based on how the label is perceived. Lunardo’s (2007) study on wine label authenticity perception found that so called ‘authentic’ labels are considered less risky to buy. Authentic, also known as classical labels, consist of old world classical design, using imagery of vineyards or castles.
Interestingly, the study found that the risk level associated with the label authenticity did not significantly affect millennials’ purchase decisions. Lunardo’s study reinforces the theory that unique modern labels are preferred in the millennial generation, and therefore seen as more valuable, of higher quality, and more likely to purchase. However, personal preferences play a huge role in popularity of a wine label, which often stem from unconscious preferences.

**Unconscious Preferences**

When we glance at a bottle before tasting it, we already decide whether it tastes good or not. Our unconscious reactions stem from our eyes, memories, and imaginations, while greatly impacting the reactions from our taste buds and salivary glands (Gladwell, 2005). Gladwell’s and Kahneman’s popular theories of unconscious preferences explain the unconscious connectivity phenomenon. This section covers Gladwell’s blink theory and thin-slicing theory, then goes into Kahneman’s theories of System 1 and 2, and the anchoring effect. Lastly, this section discusses the overlapping theories and how they affect the methodology used in this thesis.

Gladwell’s blink theory stems from the first two seconds of impressions and feelings a person receives from a situation or product. It is a system where the brain reaches conclusions without consciously realizing the conclusions it is making. A gut feeling, a bias, a preference, or distaste all falls under this category. The blink theory controls how a person perceives the world, without the person even realizing (Gladwell, 2005). Based on this theory, a consumer would perceive the quality and value of the wine before even picking up the bottle. Therefore, the label and other extrinsic cues are the
only determinants of the wine. If this is true, than a consumer’s initial design preference would also be his/her favorite wine tasted.

Gladwell’s thin-slicing theory is similar to the blink theory, but specifies why a person perceives actions or goods in a certain way. Thin-slicing refers to the brain’s ability to unconsciously find patterns in situations that are based on a narrow view of previous experiences. For example, thin-slicing is the reason why complicated wine labels are first perceived poorly, but with repeated exposure is a preferred style. The complication in the design is thin-sliced from the previous exposure and the design is seen as a pattern so the brain can comprehend it (Cox & Cox, 2002). Therefore, in a wine tasting with limited exposure and knowledge of the label, more simplistic and therefore modern labels will be preferred visually and internally. Thin-slicing also plays a role in the emotional connection that can be transferred to an object. When a consumer recognizes a wine label, or even an object on the wine label, patterns from the previous

FIGURE 2.2

UNCONSCIOUS ASSOCIATIONS

SOURCE: The Black Dog 2007
interaction are subconsciously triggered, and those emotions are transferred to the new object. For example, if a black dog attacked a consumer in previous years, s/he would transfer the feelings of fear and sadness to the Black Dog Wine label (figure 2.2), causing an immediate negative bias. Conversely, if the consumer’s first dog was a black dog, nostalgia and happiness might be transferred to the label in figure 2.2, creating a positive bias to purchase the wine. Therefore, to control this bias, the participant will be asked about any associations s/he might have with the label design.

Kahneman’s (2011) systematic theory aims to define and separate the subconscious from the conscious. System 1 runs automatically and provides impressions, impulses, feelings, and creates coherent patterns in the associative memory. System 2 is the conscious state of being. This includes using mental power to make decisions, and requires attention, time, and logic. System 1, interestingly, can often control system 2 when impressions and feelings turn into conscious beliefs, attitudes and intentions. Because they are conscious, beliefs, attitudes and intentions are easier to collect data about, helping to control variables in the methodology for this thesis (Kahneman, 2011). Since the systematic theory often turns impressions into beliefs, the initial impressions of a wine label transfer into the conscious perception of the wine. Kahneman’s theory anchors my thesis’s theory. The initial preference of the wine without tasting refers to system 1, and the actual tasting and preference refers to system 2. If this theory is correct, the data from the initial interaction should highly correlate with the second series of data from the wine tasting.

Kahneman’s anchoring effect theory is another factor that affects the methodology. The anchoring effect occurs when a person is primed before or during a
decision, so their intuition takes over. A relevant example is when the price of wine is displayed next to a bottle of wine. The price anchors the consumer’s perception of the wine, causing the consumer to believe more expensive wine is better quality (Lockshin & Hall, 2010). Because the anchoring effect is so strong with wine prices, the price will always be held constant in this thesis’s experiment, but the accuracy of the price to determine the design’s value will be questioned.

Conclusion

Each of the proposed theories plays a large role in subliminally influencing the consumer to prefer one bottle of wine to the other. A consumer’s age and wine familiarity play a large role in what they consider a risky purchase. The fear of making a bad purchase stems from the theory of conspicuous consumption and risk aversion, with the consumer wanting to show off his/her money or sophistication. Drawing from these theories, this thesis proposes that millennials’ perception of the quality and value of wine will positively correlate with the bottle they find most appealing. The modern design label will be more preferred because it has the ‘cool’ factor and that initially attracts the young, unknowledgeable consumer’s eye. Therefore, the modern label is considered to increase the consumer’s utility, while unconsciously minimizing the consumer’s risk of purchasing a bottle s/he is not happy with. Personal preferences will play a role in the consumer’s favorite choice, but theoretically the consumer’s initial preference for modern aesthetics will positively correlate with his/her perceived quality and value of the wine itself.

Given the various factors that go into a millennial’s preference, the equations presented in 2.1, 2.2, 2.3, and 2.4 take each of the variables into account in order to
determine the perceived value and quality both before and after tasting the wine.

Understanding how each of the theories relates to the data is essential to ultimately answer how the consumer’s design preference influences their perception of the wine.

The empirical research collected and quantifiable data should prove that consumers prefer modern labels to classical labels, and therefore find modern labels to be of higher quality and value. The data was collected in a series of surveys, to gain knowledge about the perceived quality and value of certain labels. The variance within the quality and value of the wine was then run through a regression to determine the significance of having a modern or classical labels on consumers’ perception of the wine. The next chapter provides more information on how the data was collected and how it relates to the hypothesis.
CHAPTER III
DATA

This chapter describes the data sources, and the advantages and limitations of the model used. The data was collected through a wine tasting using 72 millennial students living in Colorado. First, this chapter will discuss the data set, sources, and the independent and dependent variables that relate to the theory. Then, the methodology will be explained. Finally, the advantages and limitations to this data set and methodology will be described.

Data Set and Sources

The data was collected during a wine tasting by Colorado College students and faculty over the age of 21 and born after 1982, defining the millennial generation. Participants included 34 males, and 37 females, with 51% defined as upper-middle class (Figure 3.1), and 90% identified with a white ethnicity (Figure 3.2).

![Figure 3.1 Socioeconomic Status](image)

**FIGURE 3.1**
SOCIOECONOMIC STATUS

- Lower Class ($35,000 and below)
- Middle Class ($35,000 - $85,000)
- Upper Middle Class ($85,000 - $160,000)

SOURCE: Author
The young demographic is beneficial because many of the participants are new wine drinkers and have little knowledge about wine.

Therefore, they should not have preconceived notions about how a wine should taste, or have biases towards familiar labels. To control for these biases, the participant was asked about their knowledge of wine, shown in figure 3.3. The millennial demographic is important to use for the data set because they are the next generation of wine consumers, so marketers and label designers must adjust their practices to attract new consumers.

Choosing which wines to display at the wine tasting proved to be a challenging task. The first criterion was to determine three modern and three classical labels that were distinct, but relatively similar so no single design stood out. To accomplish this, the

![Figure 3.2: Ethnicity](source: Author)

![Figure 3.3: Wine Knowledge](source: Author)
labels chosen were all relatively simplistic with a predominantly white color pallet, using only one or two colors to complement. The secondary colors in each of the labels were red and black. To be consistent and prevent biases, the labels chosen were all California Cabernet Sauvignons, with a 2010 vintage. Other variables kept constant were the bottle color, quantity of wine in the tasting glass, and the palate cleansing saltine in between every tasting.

The modern labels chosen were from the wineries ‘Little Black Dress’ (Figure 3.4), ‘Paso Creek’ (Figure 3.5), and ‘Tolosa’ (Figure 3.6). These labels were chosen for...
their simplistic design, lack of information on the front, and unique imagery. The color pallets were kept constant, and the fonts were bold and modern. The classical labels were from the wineries ‘Rodney Strong’ (Figure 3.7), ‘Louis M. Martini’ (Figure 3.8), and ‘Chateau St Jean’ (Figure 3.9). All of these labels used imagery of the vineyard with a focal image of either a chateau or horse drawn carriage, as pictured in the figures. Again, each of the wines used a simplistic color pallet of white, red, and black. On each of the labels, script fonts were used in conjunction with serif fonts. ‘Rodney Strong’ was the only label that used a san-serif font for the winery’s name, but used serif fonts for the rest of the text.

The modern and classical label choice was carefully controlled to understand the dependent variables: perceived value and quality (Table 3.1). The advantage of using modern versus classical design is that both styles are easily distinguished with specific fonts and imagery, but are cohesive when seen on a wine label. This is relevant because most wine stores do not separate classical and modern labels on the shelf, so a

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Quality Visually</td>
<td>The perceived quality of the wine based solely on the wine label. Based on a scale of 1 to 5, where 1 = Poor, 5 = Excellent</td>
</tr>
<tr>
<td>Perceived Value Visually</td>
<td>The perceived value for the price of the wine based solely on the wine label. Based on a scale of 1 to 5, where 1 = Poor, 5 = Excellent</td>
</tr>
<tr>
<td>Perceived Quality After Tasting</td>
<td>The perceived quality of the wine after the participant tastes the wine. Based on a scale of 1 to 5, where 1 = Poor, 5 = Excellent</td>
</tr>
<tr>
<td>Perceived Value After Tasting</td>
<td>The perceived value for the price of the wine after the participant tastes the wine. Based on a scale of 1 to 5, where 1 = Poor, 5 = Excellent</td>
</tr>
</tbody>
</table>

TABLE 3.1
DESCRIBED DEPENDENT VARIABLES

SOURCE: Author’s Research
consumer’s eye would not find the two types of design out of place when juxtaposed.

The overall preference of the type of label design can be explained by various independent variables, such as personal characteristics like wine knowledge or socioeconomic status. Each of the variables taken into account are shown in table 3.1. The independent variables are important to include in order to fully understand which external factors influence the consumer’s personal label style preference. Taking the independent variables into account, the perceived quality and value have more meaning and fully show how much a label design effects the consumer’s overall impression of the wine, leading them to purchase.

**Methodology**

The participants for the wine tasting were recruited through social media sites, email, and word of mouth. They were instructed to sign up for a twenty-minute appointment on a Google spreadsheet online. The participants were told that they were engaging in a study exploring the millennial generations’ general preferences in wine. 72 participants completed the study. No incentives were used to get the students to participate; simply the interest in engaging in a wine tasting was enough.
Using the six labels described in the data set section, the tasting itself was rigorously controlled. First, the moderator set up the different labels on a table with clear plastic glasses in front of them. The wines were each labeled #1 through #6. Saltine crackers were placed between each glass, to act as a pallet cleanser between each wine, as shown in figure 3.10. The participants believed they tasted what each wine label indicated, when they were actually drinking and analyzing the same exact wine. The wine used in the deception was ‘Apothic Red,’ which is a blend of Zinfandel, Merlot, Syrah, and Cabernet Sauvignon. ‘Apothic Red’ is priced at $11.99, and can take on characteristics of various wines, making it the perfect choice for the wine tasting’s deception aspect.

After set up, the participant answered a series of surveys to prompt him/her to interact with the wine and give his/her perception of the wines from a visual preference and tasting preference. For the full survey, see appendix A. The first survey collected demographic information. The second survey asked specific questions about the wines as a group. The third survey asked about each specific bottle. The participant was asked to evaluate the quality and value of each wine based on visual cues. After the visual data was collected, the actual tasting began. When the participant reached this point in the interactive survey, the moderator instructed the participant through tasting the wine with the following steps:

1. Pick up the glass and swirl it to release the tannins and aerate the wine.

2. Smell the wine by putting your nose in the glass and inhale.
3. Specific flavors characteristic of a Cabernet might be plum, cherry, blackberry, blueberry, warm spice, vanilla, tobacco or sometimes leather aromas.

4. Now, taste the wine by sipping a small amount and letting it move over your entire tongue, touching every taste bud.

5. The trick to taste the undertones in the wine is to keep the wine on your tongue and breathe in to bring the aromas to the back of your throat and into your nasal passage.

6. Now that you have had the whole experience with the wine, please cleanse your pallet with the saltine cracker and continue to answer the rest of the questions on the survey.

7. Follow the same procedure for all six wines

The participants continued this process with all six wines, first answering the survey questions about visual perceptions, tasting the wine, and answering the survey questions about their total perception of the wine. After the six wines are tasted and surveyed, the participant read the debriefing. The debriefing describes the deception being used for the tasting, and this thesis’s theory about modern versus classical design preferences.

Model

Based on the independent and dependent variables described in the data set and sources section, and the functions described in the theory section, the reduced form equations used to evaluate the effect of classical versus modern labels on the perception of the quality and value wines are:
Where $X$ is a vector of personal characteristics, $\varepsilon$ is the error term and $\alpha$ is the constant.

All of these equations are fixed effect because personal differences are constant and prevalent. The time variable was generated by setting up an ordering coefficient with $1 =$ first tasting, and $6 =$ last tasting, to determine if tasting certain wines at certain times had an effect on the data collected. All of the summary statistics are shown in table 3.2.

\begin{align*}
PVV &= \alpha + \sum \beta_i label + \sum \beta_j X + \sum \beta_t time + \varepsilon \\
PVQ &= \alpha + \sum \beta_i label + \sum \beta_j X + \sum \beta_t time + \varepsilon \\
PTV &= \alpha + \sum \beta_i label + \sum \beta_j X + \sum \beta_t time + \varepsilon \\
PTQ &= \alpha + \sum \beta_i label + \sum \beta_j X + \sum \beta_t time + \varepsilon
\end{align*}
TABLE 3.2

SUMMARY STATISTICS

<table>
<thead>
<tr>
<th>Variable</th>
<th>Variable Defined</th>
<th>Observations</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tasting Quality Perception</td>
<td>1=Poor 5=Excellent</td>
<td>432</td>
<td>3.065</td>
</tr>
<tr>
<td>Perceived Quality Visually</td>
<td>1=Poor 5=Excellent</td>
<td>431</td>
<td>3.158</td>
</tr>
<tr>
<td>Initial Overall Impression</td>
<td>1=Poor 5=Excellent</td>
<td>429</td>
<td>3.583</td>
</tr>
<tr>
<td>Perceived Value Visually</td>
<td>1=Poor 5=Excellent</td>
<td>431</td>
<td>3.158</td>
</tr>
<tr>
<td>Wine Drinking Frequency</td>
<td>1=Never 7=Daily</td>
<td>432</td>
<td>4.500</td>
</tr>
<tr>
<td>Wine Purchase Frequency</td>
<td>1=Never 7=Daily</td>
<td>432</td>
<td>3.444</td>
</tr>
<tr>
<td>Wine Knowledge</td>
<td>1=Clueless 5=Expert</td>
<td>432</td>
<td>2.042</td>
</tr>
<tr>
<td>Art Knowledge</td>
<td>1=Clueless 5=Expert</td>
<td>432</td>
<td>2.486</td>
</tr>
<tr>
<td>Initial Impression</td>
<td>1=Poor 5=Excellent</td>
<td>429</td>
<td>3.583</td>
</tr>
<tr>
<td>Time</td>
<td>1=First 6=Last</td>
<td>432</td>
<td>3.500</td>
</tr>
<tr>
<td>Classical Label</td>
<td>0=No 1=Yes</td>
<td>432</td>
<td>0.495</td>
</tr>
<tr>
<td>Male</td>
<td>0=No 1=Yes</td>
<td>204</td>
<td>0.472</td>
</tr>
<tr>
<td>Age (21-25)</td>
<td>1=21-25yo 2=25-30yo</td>
<td>430</td>
<td>1.028</td>
</tr>
<tr>
<td>White</td>
<td>0=No 1=Yes</td>
<td>390</td>
<td>0.889</td>
</tr>
<tr>
<td>African American</td>
<td>0=No 1=Yes</td>
<td>6</td>
<td>0.014</td>
</tr>
<tr>
<td>Hispanic</td>
<td>0=No 1=Yes</td>
<td>12</td>
<td>0.028</td>
</tr>
<tr>
<td>Asian</td>
<td>0=No 1=Yes</td>
<td>18</td>
<td>0.042</td>
</tr>
<tr>
<td>Other Ethnicity</td>
<td>0=No 1=Yes</td>
<td>6</td>
<td>0.028</td>
</tr>
<tr>
<td>Socioeconomic Status</td>
<td>1=Lower Class 4=Upper Class</td>
<td>432</td>
<td>3.097</td>
</tr>
<tr>
<td>Bottle Familiarity</td>
<td>3=Familiar 4=Not Familiar</td>
<td>432</td>
<td>3.597</td>
</tr>
<tr>
<td>Chateau St Jean</td>
<td>0=No 1=Yes</td>
<td>426</td>
<td>0.167</td>
</tr>
<tr>
<td>Little Black Dress</td>
<td>0=No 1=Yes</td>
<td>426</td>
<td>0.167</td>
</tr>
<tr>
<td>Louis M. Martini</td>
<td>0=No 1=Yes</td>
<td>426</td>
<td>0.169</td>
</tr>
<tr>
<td>Paso Creek</td>
<td>0=No 1=Yes</td>
<td>426</td>
<td>0.167</td>
</tr>
<tr>
<td>Rodney Strong</td>
<td>0=No 1=Yes</td>
<td>426</td>
<td>0.167</td>
</tr>
<tr>
<td>Tolosa</td>
<td>0=No 1=Yes</td>
<td>426</td>
<td>0.164</td>
</tr>
</tbody>
</table>

SOURCE: Author’s Calculations
Conclusion

The data gathered and analyzed from the methodology and through the model helped to determine the millennial generation’s label design preference and perception. Ultimately, with this knowledge, wineries can target the new generation of consumers simply by understanding the specific types of labels that convey the highest quality and value. The next chapter discusses the results of the data gathered, and its significance to this thesis’s theory.
CHAPTER IV

RESULTS

This section discusses the results of the four regression models created, and highlights interesting results related to this thesis’s theory. Before entering the regressions, the data had to be rearranged so that each individual tasting from the 6 bottles and 72 participants was accounted for, resulting in 432 total tastings. This section will first look at the initial quality and value perception data, and then look at the post-tasting perceptions of the quality and value of the wine. Before specific data was collected from each participant, they were asked to rank their favorite wines. Figure 4.1 shows how many times each wine was rated the participant’s first favorite. The initial likeability of each wine highly positively correlates with each of the later perceptions of the wine.

FIGURE 4.1

FAVORITE RANKED WINES

SOURCE: Author’s Data
Initial Quality and Value Regression Analysis

The first regression analyzed the perceived value and quality of the wine based solely on visual cues from the label design. The results of the initial impression of the label contradict this thesis’s theory. Specifically, having a classical label compared to a modern label increased the perceived value and quality of wine by 15%. Checking for heteroskedasticity, the initial quality regression had a chi2 at the 90% level, meaning that heteroskedasticity does exist. The regression was corrected for heteroskedasticity.

A significant finding is correlation between how often the participant drank and his/her overall visual impression of the wine. As the participant moved on the scale from never drinking to always drinking, his/her impression of the quality and value of the wine decreased by 0.131 and 0.147, respectively. Interestingly, the opposite is true with the participant’s frequency to purchase wine. The more the participant purchased wine, the higher s/he rated the value and quality of the wine.

An explanation for the different impressions between drinking and buying wine could be explained by the baby boomers’ influence on the millennials. The participants’ comments during the wine tasting experiment exemplify the dichotomy. Multiple participants mentioned the high quality of wine they drink with their parents, but would not buy themselves because of the price. One specific participant commented that Château St. Jean reminded her of something her dad would drink. She disliked the wine, but it reminded her of her father. The connection to drinking frequently with the millennial parents, or baby boomers, explains the initial positive perception of classical wines. Since baby boomers usually are attracted to and drink expensive bottles and
classical labels, their offspring would naturally associate high quality and value with classically designed wine labels (Wolf, 2007). But if the millennial participant purchases wine more often from a lower price range, s/he is less likely to be critical of the medium price range of the bottles in the methodology.

Knowledge is another significant variable when determining the value and quality of wines. As the participant’s wine knowledge moved from being “clueless” to being an “expert”, their initial impression of the value and quality of the wine decreased by 0.201 and 0.212, respectively. However, as the participant’s art knowledge moves up the scale, his/her initial impression of the value and quality of the wine increases by 0.091 and 0.67, respectively. In both results, the outstanding significant result is the initial overall impression, which increases the perception by 0.4. The significant data from the regression of initial value perception is shown in table 4.1. Table 4.2 shows the regression data of the initial quality perception.
## TABLE 4.1

INITIAL PERCEIVED VALUE REGRESSION RESULTS

<table>
<thead>
<tr>
<th>Dependent Variable: Visually Perceived Value</th>
<th>Coefficient</th>
<th>T Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>-0.067</td>
<td>-0.790</td>
</tr>
<tr>
<td>Age</td>
<td>0.530**</td>
<td>2.330</td>
</tr>
<tr>
<td>Socioeconomic Status</td>
<td>-0.009</td>
<td>-0.190</td>
</tr>
<tr>
<td>White</td>
<td>1.274***</td>
<td>5.040</td>
</tr>
<tr>
<td>African American</td>
<td>0.821**</td>
<td>2.060</td>
</tr>
<tr>
<td>Hispanic</td>
<td>0.296</td>
<td>0.870</td>
</tr>
<tr>
<td>Asian</td>
<td>1.119***</td>
<td>3.500</td>
</tr>
<tr>
<td>Other Ethnicity</td>
<td>-0.173</td>
<td>-0.700</td>
</tr>
<tr>
<td>Wine Drinking Frequency</td>
<td>-0.131**</td>
<td>-2.550</td>
</tr>
<tr>
<td>Wine Purchase Frequency</td>
<td>0.135***</td>
<td>2.830</td>
</tr>
<tr>
<td>Wine Knowledge</td>
<td>-0.202***</td>
<td>-2.970</td>
</tr>
<tr>
<td>Art Knowledge</td>
<td>0.091**</td>
<td>2.500</td>
</tr>
<tr>
<td>Bottle Familiarity</td>
<td>-0.024</td>
<td>-0.300</td>
</tr>
<tr>
<td>Initial Impression</td>
<td>0.414**</td>
<td>10.210</td>
</tr>
<tr>
<td>Time</td>
<td>0.053***</td>
<td>2.590</td>
</tr>
<tr>
<td>Classical Label</td>
<td>0.151</td>
<td>1.190</td>
</tr>
<tr>
<td>Chateau St Jean</td>
<td>0.025</td>
<td>0.200</td>
</tr>
<tr>
<td>Little Black Dress</td>
<td>-0.270**</td>
<td>-2.180</td>
</tr>
<tr>
<td>Louis M. Martini</td>
<td>0.021</td>
<td>0.180</td>
</tr>
<tr>
<td>Paso Creek</td>
<td>Omitted</td>
<td></td>
</tr>
<tr>
<td>Rodney Strong</td>
<td>Omitted</td>
<td></td>
</tr>
<tr>
<td>Tolosa</td>
<td>0.077</td>
<td>0.630</td>
</tr>
<tr>
<td>Constant</td>
<td>0.196</td>
<td>0.340</td>
</tr>
</tbody>
</table>

R-squared = 0.375

Chi2 = 0.16

*Significant at the 10% Level
**Significant at the 5% Level
***Significant at the 1% Level

SOURCE: Author’s Calculations
TABLE 4.2
INITIAL PERCEIVED QUALITY REGRESSION RESULTS

<table>
<thead>
<tr>
<th>Dependent Variable: Visually Perceived Quality</th>
<th>Coefficient</th>
<th>T Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>-0.081</td>
<td>-1.050</td>
</tr>
<tr>
<td>Age</td>
<td>-0.084</td>
<td>-0.400</td>
</tr>
<tr>
<td>Socioeconomic Status</td>
<td>-0.067</td>
<td>-1.460</td>
</tr>
<tr>
<td>White</td>
<td>1.111***</td>
<td>4.690</td>
</tr>
<tr>
<td>African American</td>
<td>0.302</td>
<td>0.720</td>
</tr>
<tr>
<td>Hispanic</td>
<td>-0.147</td>
<td>-0.440</td>
</tr>
<tr>
<td>Asian</td>
<td>0.709**</td>
<td>2.300</td>
</tr>
<tr>
<td>Other Ethnicity</td>
<td>-0.164</td>
<td>-0.940</td>
</tr>
<tr>
<td>Wine Drinking Frequency</td>
<td>-0.147***</td>
<td>-3.280</td>
</tr>
<tr>
<td>Wine Purchase Frequency</td>
<td>0.120***</td>
<td>2.720</td>
</tr>
<tr>
<td>Wine Knowledge</td>
<td>-0.213***</td>
<td>-3.110</td>
</tr>
<tr>
<td>Art Knowledge</td>
<td>0.067*</td>
<td>1.880</td>
</tr>
<tr>
<td>Bottle Familiarity</td>
<td>-0.049</td>
<td>-0.610</td>
</tr>
<tr>
<td>Initial Impression</td>
<td>0.427***</td>
<td>10.810</td>
</tr>
<tr>
<td>Time</td>
<td>0.069***</td>
<td>3.700</td>
</tr>
<tr>
<td>Classical Label</td>
<td>0.156</td>
<td>1.310</td>
</tr>
<tr>
<td>Chateau St Jean</td>
<td>0.213*</td>
<td>1.710</td>
</tr>
<tr>
<td>Little Black Dress</td>
<td>-0.230**</td>
<td>-2.220</td>
</tr>
<tr>
<td>Louis M. Martini</td>
<td>0.027</td>
<td>0.200</td>
</tr>
<tr>
<td>Paso Creek</td>
<td>Omitted</td>
<td></td>
</tr>
<tr>
<td>Rodney Strong</td>
<td>Omitted</td>
<td></td>
</tr>
<tr>
<td>Tolosa</td>
<td>0.190*</td>
<td>1.900</td>
</tr>
<tr>
<td>Constant</td>
<td>1.299**</td>
<td>2.220</td>
</tr>
</tbody>
</table>

R-squared = 0.431
Chi2(1) = 2.69
Corrected for Heteroskedasticity

*Significant at the 10% Level
**Significant at the 5% Level
***Significant at the 1% Level
SOURCE: Author’s Calculations
Post-Tasting Quality and Value Regression Analysis

The second regression analyzed the perceived value and quality of the wine based on the participant’s impression after s/he tasted the wine, shown in table 4.3 and 4.4. The results of this regression perfectly coincide with the hypothesis. Modern labels are perceived as being of higher value and higher quality when compared to classical labels. Specifically, having a modern label increased the perceived value after tasting by 11%, and increased the perceived quality after tasting by 21%. The significance of the initial perception and post-tasting perception was an unforeseen difference, but gave strong insight to the millennial generation’s preferences, as described in the next chapter. Both of the regression models were corrected for heteroskedasticity.

Significant variables in the post-tasting perceptions were the perceived visual value, the overall impression of the wine, and the participant’s drinking frequency. As the participant’s initial visual impression of the wine’s value increased by one point, their impression of the value and quality after tasting the wine increased by 0.3. The significance is at a 99% confidence level, showing that there was a very high correlation between the label design’s effects on the consumer’s perception of the value quality of the wine. Also at the 99% confidence level, the amount that the participant liked the wine overall after the tasting highly positively correlated with their impression of its value. When the participant increased his/her overall perception of the wine, their perception of the value and quality after tasting the wine increased by a coefficient of 0.7 points.
Higher drinking frequency decreased the participants’ perception of the quality and value of the wine by a coefficient of 0.1. This shows that participants who have more exposure to wine were more likely to be more critical of the label design, influencing their overall perception of the wine.
### Table 4.3

**POST-TASTING PERCEIVED VALUE REGRESSION RESULTS**

<table>
<thead>
<tr>
<th>Dependent Variable: Tasting Value Perception</th>
<th>Coefficient</th>
<th>T Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Value Visually</td>
<td>0.335322***</td>
<td>7.300</td>
</tr>
<tr>
<td>Initial Overall Impression</td>
<td>-0.0557145</td>
<td>-1.240</td>
</tr>
<tr>
<td>Overall Impression After Tasting</td>
<td>0.7075599***</td>
<td>17.480</td>
</tr>
<tr>
<td>Gender</td>
<td>-0.0946951</td>
<td>-1.330</td>
</tr>
<tr>
<td>Age</td>
<td>0.1542429</td>
<td>1.290</td>
</tr>
<tr>
<td>Socioeconomic Status</td>
<td>0.0410805</td>
<td>0.980</td>
</tr>
<tr>
<td>White</td>
<td>0.3512691**</td>
<td>2.250</td>
</tr>
<tr>
<td>African American</td>
<td>0.0517397</td>
<td>0.200</td>
</tr>
<tr>
<td>Hispanic</td>
<td>0.0938587</td>
<td>0.410</td>
</tr>
<tr>
<td>Asian</td>
<td>0.0564203</td>
<td>0.270</td>
</tr>
<tr>
<td>Other Ethnicity</td>
<td>0.1532243</td>
<td>0.780</td>
</tr>
<tr>
<td>Wine Drinking Frequency</td>
<td>-0.1003563**</td>
<td>-2.390</td>
</tr>
<tr>
<td>Wine Purchase Frequency</td>
<td>0.0450712</td>
<td>1.060</td>
</tr>
<tr>
<td>Wine Knowledge</td>
<td>-0.0753566</td>
<td>-1.100</td>
</tr>
<tr>
<td>Art Knowledge</td>
<td>0.0379217</td>
<td>1.150</td>
</tr>
<tr>
<td>Bottle Familiarity</td>
<td>-0.0523678</td>
<td>-0.720</td>
</tr>
<tr>
<td>Time</td>
<td>-0.0103137</td>
<td>-0.580</td>
</tr>
<tr>
<td>Classical Label</td>
<td>0.0375006</td>
<td>0.340</td>
</tr>
<tr>
<td>Chateau St Jean</td>
<td>-0.2671383*</td>
<td>-2.560</td>
</tr>
<tr>
<td>Little Black Dress</td>
<td>-0.0225398</td>
<td>-0.210</td>
</tr>
<tr>
<td>Louis M. Martini</td>
<td>Omitted</td>
<td></td>
</tr>
<tr>
<td>Paso Creek</td>
<td>Omitted</td>
<td></td>
</tr>
<tr>
<td>Rodney Strong</td>
<td>-0.0536429</td>
<td>-0.520</td>
</tr>
<tr>
<td>Tolosa</td>
<td>-0.1803468*</td>
<td>-1.690</td>
</tr>
<tr>
<td>Constant</td>
<td>-0.1129166</td>
<td>-0.250</td>
</tr>
</tbody>
</table>

R-squared = 0.6420  
Chi2(1) = 13.62  
Corrected for Heteroskedasticity

*Significant at the 10% Level  
**Significant at the 5% Level  
***Significant at the 1% Level  

SOURCE: Author’s Calculations
TABLE 4.4

POST-TASTING PERCEIVED QUALITY REGRESSION RESULTS

<table>
<thead>
<tr>
<th>Dependent Variable: Tasting Quality Perception</th>
<th>Coefficient</th>
<th>T Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Quality Visually</td>
<td>0.3339825***</td>
<td>6.270</td>
</tr>
<tr>
<td>Initial Overall Impression</td>
<td>-0.0761747</td>
<td>-1.540</td>
</tr>
<tr>
<td>Overall Impression After Tasting</td>
<td>0.7333291***</td>
<td>18.260</td>
</tr>
<tr>
<td>Gender</td>
<td>-0.0787566</td>
<td>-1.090</td>
</tr>
<tr>
<td>Age</td>
<td>0.0997838</td>
<td>0.630</td>
</tr>
<tr>
<td>Socioeconomic Status</td>
<td>0.0510063</td>
<td>1.250</td>
</tr>
<tr>
<td>White</td>
<td>0.1611542</td>
<td>0.550</td>
</tr>
<tr>
<td>African American</td>
<td>-0.2924988</td>
<td>-0.900</td>
</tr>
<tr>
<td>Hispanic</td>
<td>-0.1814572</td>
<td>-0.590</td>
</tr>
<tr>
<td>Asian</td>
<td>0.1381116</td>
<td>0.390</td>
</tr>
<tr>
<td>Other Ethnicity</td>
<td>0.25789</td>
<td>0.990</td>
</tr>
<tr>
<td>Wine Drinking Frequency</td>
<td>-0.1310495***</td>
<td>-3.160</td>
</tr>
<tr>
<td>Wine Purchase Frequency</td>
<td>0.0595603</td>
<td>1.330</td>
</tr>
<tr>
<td>Wine Knowledge</td>
<td>-0.0634324</td>
<td>-1.110</td>
</tr>
<tr>
<td>Art Knowledge</td>
<td>0.0489879*</td>
<td>1.700</td>
</tr>
<tr>
<td>Bottle Familiarity</td>
<td>-0.0844644</td>
<td>-1.200</td>
</tr>
<tr>
<td>Time</td>
<td>0.0038221</td>
<td>0.210</td>
</tr>
<tr>
<td>Classical Label</td>
<td>-0.0026003</td>
<td>-0.020</td>
</tr>
<tr>
<td>Chateau St Jean</td>
<td>-0.1637447</td>
<td>-1.560</td>
</tr>
<tr>
<td>Little Black Dress</td>
<td>Omitted</td>
<td></td>
</tr>
<tr>
<td>Louis M. Martini</td>
<td>0.1270916</td>
<td>1.150</td>
</tr>
<tr>
<td>Paso Creek</td>
<td>0.1142477</td>
<td>1.020</td>
</tr>
<tr>
<td>Rodney Strong</td>
<td>Omitted</td>
<td></td>
</tr>
<tr>
<td>Tolosa</td>
<td>-0.2085025**</td>
<td>-1.970</td>
</tr>
<tr>
<td>Constant</td>
<td>0.0432074</td>
<td>0.090</td>
</tr>
</tbody>
</table>

R-squared = 0.650

Chi2(1) = 13.62

Corrected for Heteroskedasticity

*Significant at the 10% Level
**Significant at the 5% Level
***Significant at the 1% Level

SOURCE: Author’s Calculations
Limitations

The survey results could have slight, unintended shortcomings from the limitation of the data set used. The available sample set in the wine tasting consisted primarily of Colorado College students with an upper-middle class background. Therefore, they have most likely been exposed to wine before, which may have caused unintended biases in the data.

Another limitation was the extensive controls that needed to be present for choosing the wines. Since all the bottles had to be 2010 California Cabernets, the label designs to choose from were limited, potentially leaving out specific design elements that could have made a significant impact on the perceived quality and value. In addition, the label size and bottle size varied by a few millimeters, which potentially caused biases in the data. However, the labels selected had a relatively wide variety of details, while still looking similar enough to prevent obvious biases.

Conclusion

Each of the four models raised interesting significant points to determine how millennials perceive wine both aesthetically and through taste. The most important data points from the millennials’ initial impression of the wine were summarized by the finding that a classical label increased the perceived value and quality of wine by 15%. After tasting the wine, a modern label increased the perceived value by 11%, and increased the perceived quality by 21%. The significance of the initial perception verses the post-tasting perception gave strong insight to the millennial generation’s overall design preferences, taking both external and unconscious influences into account, as described in the next chapter.
CHAPTER V
CONCLUSIONS

The initial hypothesis was that millennials are initially attracted to modern design wine labels, and that the attraction translated to the quality and value of the wine itself. While the theory is not entirely false, the data from the regressions and qualitative analysis gave a more interesting insight into the millennial generation’s perception. Actually, when evaluating a wine based on its label, the classical labels were perceived to have a higher quality and value. However, after tasting the wine, the millennial generation participants rated the modern labels to be higher quality and more valuable. The theories described in chapter II, such as unconscious preferences, conspicuous consumption, and risk aversion, explained this dichotomy, and reinforced the data collected in this thesis.

The initial rating of a label’s quality and value was influenced by external factors. With nothing to base their decision on, millennials looked to previous wine drinking experiences to aid their decision. Trying to evade the risk of guessing the wrong quality and value, millennials turned to their experiences drinking wine with their knowledgeable parents, or the baby boomer generation. Based on Wolf’s study (2007), baby boomers were more likely to purchase and drink expensive classical labels of wine, which unconsciously triggers millennials to believe that classical labels must be of higher quality and valuable. In addition, the theory of conspicuous consumption influenced the
participant’s ratings because they attribute labels that look more expensive to be of higher quality.

Shown in figure 4.1, the overwhelming favorite label based solely on design was Paso Creek, a modern label; 37 participants ranked Paso Creek as their favorite, and the classical label Chateau St. Jean was the second most favored with 17 votes. The ranking shows that overall, millennial consumers are more attracted to modern labels, but still have affinity towards classical labels. This attraction towards the classical labels could again be explained by conspicuous consumption. Conspicuous consumption creates the desire for millennials to be seen as upper class, and therefore knowledgeable about wine. Since many of the participants were upper-middle class, they choose what their parents considered valuable and high quality.

After tasting the wine, the consumer’s unconscious preferences were apparent, and the initial likeability of the wine transferred to the tasted quality and value. When tasting, the visual, olfactory, touch, and tasting senses work together to create an overall impression. However, with the deception of tasting the same exact wine for different labels, the olfactory and tasting senses were controlled, unknown to the participant. Therefore, their unconscious preferences were more apparent through the duped senses. Based on the data collected, millennials unconscious preference was modern labels. The likeability of the design transferred to the perceived quality and taste of the wine, giving modern labels an advantage when marketed towards millennial consumers.

The shift from baby boomer consumers to millennial consumers was apparent in the socially constructed belief that classical labels are higher quality and more valuable.
With time, the millennials’ unconscious preference of modern labels and the value and quality that they attribute with it will become the norm for further generations.

To further the study of millennial preferences, a much larger sample set with a wider range of demographics is necessary. It would be interesting to test a wider range of knowledge, from someone who has zero experience with wine, and a consumer who has studied wine previously. Recommended further studies include figuring out the exact design elements that contribute to a consumer’s preference. For example, fonts, layout ratios, use of space, or specific imagery could be useful for the marketing and design industries.

The conclusions in this thesis add to the overall understanding about the millennial generation’s preferences when purchasing wine, and any product with a specific label design style. Understanding the unknowledgeable consumer’s external influences and personal unconscious preferences will help designers and marketers understand how to sell to the millennial generation better, and unconsciously influence the consumer to judge the product by the label. Now, with the consciousness that goes into design, Mom’s cliché will morph into ‘always judge a book by its cover’.
Online Consent Form
You are invited to take part in a research survey about wine preferences. Your participation will require approximately 5 minutes and is completed online at your computer. There are no known risks or discomforts associated with this survey. Benefits include expanding the wine and marketing industry’s knowledge of millennial preferences. Taking part in this study is completely voluntary. If you choose to be in the study you can withdraw at any time without adversely affecting your relationship with anyone at Colorado College. Your responses will be kept strictly confidential, and digital data will be stored in secure computer files. Any report of this research that is made available to the public will not include your name or any other individual information by which you could be identified. If you have questions or want a copy or summary of this study’s results, you can contact the researcher at the email address above. If you have any questions about whether you have been treated in an illegal or unethical way, contact the Colorado College Institutional Research Board chair, Amanda Udis-Kessler at 719-227-8177 or audiskessler@coloradocollege.edu. Please feel free to print a copy of this consent page to keep for your records. By participating in this research I am acknowledging that I am 21 years of age or older; if I am younger than 21 I agree to cease participation immediately. Clicking the “Next” button below indicates your consent to participate in this survey.

Q1 What gender do you identify with?
☐ Male (1)
☐ Female (2)
☐ Other (3)

Q2 What is your age?
☐ 21-25 years old (1)
☐ 25-30 years old (2)
☐ 30+ years old (3)
Q3 How would you classify your family's socioeconomic status?
- Lower Class ($35,000 and below) (1)
- Middle Class ($35,000 - $85,000) (2)
- Upper Middle Class ($85,000 - $160,000) (3)
- Upper Class ($160,000 and above) (4)

Q5 Which ethnicity do you identify with?
- White/Caucasian (1)
- African American (2)
- Hispanic (3)
- Asian (4)
- Native American (5)
- Pacific Islander (6)
- Other (7)

Q87 How often do you drink wine?
- Never (1)
- Less than Once a Month (2)
- Once a Month (3)
- 2-3 Times a Month (4)
- Once a Week (5)
- 2-3 Times a Week (6)
- Daily (7)

Q89 How often do you purchase wine?
- Never (1)
- Less than Once a Month (2)
- Once a Month (3)
- 2-3 Times a Month (4)
- Once a Week (5)
- 2-3 Times a Week (6)
- Daily (7)
Q90 How knowledgeable would you to consider yourself to be about wine?
- Clueless (1)
- Vague Knowledge (2)
- Knowledgeable (3)
- Very Knowledgeable (4)
- Expert (5)

Q91 How knowledgeable would you to consider yourself to be about art or design?
- Clueless (1)
- Vague Knowledge (2)
- Knowledgeable (3)
- Very Knowledgeable (4)
- Expert (5)

Q93 Are you familiar with any of the labels on the table? Note: ALL of the wines are from California, vintage 2010, Cabernet Sauvignon
- Yes (3)
- No (4)

Answer If Are you familiar with any of the wines on the table? Is Selected

Q94 Please explain which wines and how you are familiar with them.

Q19 Please click and drag the following bottles of wine to rank them. You favorite bottle should be at the top and your least favorite bottle at the bottom. Note: each wine is priced at $15.89 / bottle.
- _____ Rodney Strong (1)
- _____ Little Black Dress (2)
- _____ Louis.M.Martini (3)
- _____ Chateau St. Jean (4)
- _____ Paso Creek (5)
- _____ Tolosa (6)
Q96 Assuming you were to purchase one of these bottles of wine, rank the following bottles with the one you would most likely purchase at the top and the one least likely to purchase at the bottom. Click and drag to rank. Note: each wine is priced at $15.89/bottle.

- Rodney Strong (1)
- Tolosa (2)
- Little Black Dress (3)
- Louis.M.Martini (4)
- Chateau St. Jean (5)
- Paso Creek (6)

Q1 Individual Analysis: DO NOT TASTE THE WINE YET. You will first analyze and answer questions about the wine looking at it visually. Note: each of the wines are priced at $15.89/bottle

Q29 Select the brand of Wine #1

- Little Black Dress (1)
- Tolosa (2)
- Paso Creek (3)
- Chateau St Jean (4)
- Louis.M.Martini (5)
- Rodney Strong (6)

Q2 What is your initial overall impression of this wine?

- Strongly Dislike (1)
- Dislike (2)
- Indifferent (3)
- Like (4)
- Like Very Much (5)

<table>
<thead>
<tr>
<th>Wine #1 (1)</th>
<th>Like</th>
<th>Like Very Much</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

Q3 Describe what you like/dislike or your impressions about this wine: (optional)

Q4 This wine is priced at $15.89. Based on your knowledge of the wine, how good of a value would you estimate this wine to be?

<table>
<thead>
<tr>
<th>Value for Price (1)</th>
<th>Poor (1)</th>
<th>Fair (2)</th>
<th>Average (3)</th>
<th>Good (4)</th>
<th>Excellent (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

Q5 Based on your knowledge of the wine, how would you rate the quality of this wine?

<table>
<thead>
<tr>
<th>Quality (1)</th>
<th>Poor (1)</th>
<th>Fair (2)</th>
<th>Average (3)</th>
<th>Good (4)</th>
<th>Excellent (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
Q6 Please notify the moderator you are READY TO TASTE THE WINE. The moderator will instruct you how to taste the wine. You have the option to spit or drink the wine before answering the following questions. Note: each of the wines are priced at $15.89/bottle

Q7 What is your overall impression of this wine?

<table>
<thead>
<tr>
<th></th>
<th>Dislike Very Much (1)</th>
<th>Dislike (2)</th>
<th>Indifferent (3)</th>
<th>Like (4)</th>
<th>Like Very Much (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wine #1 (1)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
</tbody>
</table>

Q8 Describe what you like/dislike or your impressions about this wine: (optional)

Q9 This wine is priced at $15.89. Based on your knowledge of the wine, how good of a value do you think it is?

<table>
<thead>
<tr>
<th>Value for Price (1)</th>
<th>Poor (1)</th>
<th>Fair (2)</th>
<th>Average (3)</th>
<th>Good (4)</th>
<th>Very Good (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
</tbody>
</table>

Q10 Based on your knowledge of the wine, what is quality of the wine?

<table>
<thead>
<tr>
<th>Quality (1)</th>
<th>Poor (1)</th>
<th>Fair (2)</th>
<th>Average (3)</th>
<th>Good (4)</th>
<th>Very Good (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
</tbody>
</table>

Q11 Please follow the same procedure analyzing and answering the same questions for all 6 wines.

Q152 Debrief: Thank you for participating in this study. The study’s purpose is to discover whether the millennial generation is more attracted to modern or classical label design, and if the type of design affects their perception of the wine’s quality and value. Therefore, to control all variables except the label design, the wine you have been tasting is from the same winery, Apothic Red. The labels were in front of you for the sole purpose of priming your tasting. If you have any questions or concerns about the deception used, please feel free to discuss them now, or contact me later at Monica.Mueller@coloradocollege.edu. Please DO NOT disclose your wine tasting experience until after the testing date is over (March 5, 2013). Thank you again for your time.
REFERENCES CONSULTED


Reidick, O. (2003). People buy the wine label, not the wine. 1-27.


