A MULTI-METHODOLOGICAL APPROACH TO EXPLORING WINE TOURIST BEHAVIOR AND VALUATION OF COLD-HARDY WINES

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ABSTRACT

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Vineyard and winery development is increasing in rural regions throughout the U.S., with the introduction of cold-hardy wine grapes amplifying the development of new wine regions in rural areas in the northern U.S. These grapes and wines are creating opportunities for wine production and wine tourism in areas where wine production was not previously feasible. For these new wine tourism operators to be successful and build sustainable wine regions, winery owners need to understand what wine tourists value and develop best practices in the tasting room to facilitate sales. Since these new wineries depend heavily on tasting room sales, it is important to learn how to best market and differentiate these new cold-hardy varietals specific to wine tourists with a focus on the tasting room as the main point of sale. To address this issue, a multi-methodological approach was implemented to 1) examine how information impacts wine tourists' willingness to pay (WTP) for cold-hardy wines using the Becker-DeGroot-Marschak (BDM) experimental auction method; 2) determine the extent wine tourists prefer specific wine attributes in relation to price using stated preference choice modelling (SPCM); and 3) describe how wine tourists' preference and utility is influenced by their level of involvement with wine using cluster analysis and SPCM.

A total of 143 wine tourists participated in non-hypothetical BDM experimental auctions, which were conducted at a winery in a rapidly growing wine region in northern Michigan. BDM auction results show that while a "locally produced" message increased tourists' WTP for a wine, information about awards the wine had won had a greater impact on WTP. The SPCM

study surveyed winery visitors in cold-climate wine regions in Wisconsin and Minnesota. With 338 completed surveys, logistic regression analysis was conducted and showed that wine tourists' preferred wines that had won an award and wines that possessed a geographic designation. In the final study, cluster analysis segmented wine tourists into two groups based on involvement (i.e., low-involved or high-involved wine tourists). Logistic regression analysis was conducted for both groups and identified preferences and utility for wine product attributes between the two groups. The groups also revealed different amounts of wine knowledge, as well as different wine purchasing and consumption behaviors. This study suggests that the level of involvement does impact wine tourists' preferences and specifically, their utility for wine attributes.

Research findings across the three studies provide several implications for winery operators. Findings from all three studies indicate that winery operators should enter their wines into competitions, whereas support for winery operators to specifically brand their wines using a varietal name (e.g., Marquette) was found only in Study Three after respondents were segmented into high- and low-involved wine tourists. Additional implications are discussed, and future research is suggested specific to each study, as well as on the use of the multiple methods to address research specific to the wine tourism industry. Researchers and practitioners can utilize research findings to inform their marketing and promotional strategies in the tasting room.

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CHAPTER 1: INTRODUCTION

Rural tourism and recreational development provides numerous potential benefits and drawbacks for rural communities (Reeder & Brown, 2005). A specific subset of rural tourism that is growing in popularity is agritourism. Many small-scale agriculture producers are diversifying to include agritourism activities to supplement their income and preserve their farms, and these activities are in turn helping to boost employment (Hall, Johnson, Cambourne, Macionis, Mitchell, & Sharples, 2000; Kneafsey, 2000) and improve the economic health of rural areas (Busby & Rendle, 2000; McGehee & Kim, 2004). Additional benefits of agritourism and other rural tourism ventures can include increased land value, decreased poverty, improvement of public services and infrastructure, and increased access to goods, services and entertainment previously unavailable to residents.

One particular form of agritourism known as winery tourism has experienced significant growth and popularity in recent years (Mitchell & Hall, 2006). Wine tourism is defined as "…a form of special-interest travel based on the desire to visit wine-producing regions or in which travelers are induced to visit wine-producing regions and wineries in particular, while traveling for other reasons" (Brown & Getz, 2005, p.226). Well known wine regions such as California account for the highest annual production of wine, producing 87% of wine in the U.S. (Wine Vines Analytics, 2017) and attracting over 23 million tourists to California per year (Wine Institute, 2016). One success of California's wine regions can be attributed to tourism activity which generates $7.2 billion in annual tourism expenditures (Wine Institute, 2017). Although small and emerging wineries do not attract wine tourists to the same magnitude as California, they are dependent on the revenue generated by wine tourism tasting room sales (Holecek,

McCole, Lee, 2016). Tasting room revenue is critically important since the tasting room is the main point of distribution for cold-hardy wineries.

The growth of smaller wine regions in places such as Minnesota and Wisconsin have been fueled by the development and introduction of cold-hardy grapes and wines. Winery tourism has expanded into these cold-climate regions in the northern U.S. because cold-hardy cultivars are hybrid grapes that can better withstand harsh winters and ripen in a shorter growing season. These grapes and wines are creating opportunities for wine production where it was not previously feasible, and for these new wine producers to be economically sustainable they are diversifying into agritourism businesses. Specifically, winery operators are diversifying into the wine tourism business by establishing winery tasting rooms where a main focus is on grape wine tasting and/or experiencing the culture of the wine region (Hall et al., 2000).

Diversification into agritourism is a common practice among many small-scale producers as they work to supplement their income and preserve their farms or vineyards (Hall et al., 2000; Kneafsey, 2000). Yet, this can present challenges for wine producers as they take on new roles associated with diversifying into wine tourism. To assist wine producers with these new roles and the successful development of wine tourism ventures, there needs to be an understanding of what challenges these new tourism entrepreneurs are facing. For example, there is limited research specific to marketing and wine tourism consumer behavior with even less research focused on the context of the tasting room. Many new winery operators do not have experience or training in tourism and customer service and lack marketing and business training (Busby & Rendle, 2000; Lane, 1994). Even as they gain knowledge it may remain unclear to them as to what specific area of the marketing process is most important for them to focus on. Wineries producing cold-hardy wines face branding and marketing challenges as they introduce these

unfamiliar wines to wine tourists who are more accustomed to traditional varietals (e.g., Merlot, Chardonnay, etc.). In order for these new wineries to be successful and build sustainable wine tourism regions, they need to understand what their wine tourists value and develop best practices in the tasting room to facilitate sales.

One approach to gain a greater understanding of consumer behavior in the context of winery tasting rooms is to explore tasting room visitors' preferences of wine tourism products, as well as what they are actually willing to pay for such products. Knowing wine tourists' preferences and willingness-to-pay (WTP) provides information about visitors' behaviors that will help to better inform marketing efforts by wine tourism providers. Additionally, in order to help wine tourism entrepreneurs better understand their visitors, Govindasamy and Kelley (2014) suggest more research into agritourism visitor demographic profiles, behavioral characteristics, and their perceptions toward their experience(s).

One method used in tourism research to discern consumers' preferences for a specific tourism product and its associated attributes is stated preference choice modeling (SPCM). Various studies have been able to identify tourists' value for a particular product or experience using this method (Kelley, Rensburg, & Jeserich, 2016; Piriyapada & Wang, 2015). SPCM asks consumers to make trade-offs using simulated choice behavior to reveal the extent to which consumers value specific attributes of a given product or experience (Louviere, Hensher, & Swait, 2000). This method has been used in wine research to identify what attributes general wine consumers value more (Lockshin, Jarvis, d'Hauteville, & Perrouty, 2006; Mueller, Lockshin, Saltman, & Blanford, 2010), but has not been explored among wine tourist's specific to the tasting room context, nor in emerging cold-climate wine regions.

Another approach to understanding tasting room visitors' behavior in order to facilitate sales is by exploring their willingness to pay (WTP) for a given cold-hardy wine. Wine tourists can partake in a wide variety of wine tourism services such as wine tasting, learning about wines and the wine production process, and enjoying the leisure aspects of the winery and/or vineyard (Gill, Byslma, & Ouschan, 2007). During these activities, there is a significant amount of information that can be shared with visitors that may influence their purchasing behavior. Since it has been found that information impacts WTP more than sensory characteristics (e.g., smell, color, or taste) (Lecocg, Magnac, Pichery, & Visser, 2005), another approach to learning about wine tourists' behavior is to explore how different types of information in the form of product messages impacts their WTP for a given cold-hardy wine.

Experimental auctions (EA) offer a non-hypothetical method to examining how wine tourists' true WTP can be impacted by different types of product messages. EAs work to reveal a participant's true value for a product by designing situations where participants may be required to actually buy the product during the experiment. The use of EAs specific to wine tourism research is limited, with most studies focusing on general consumers (i.e., not wine tourists) and taking place in non-market environments (e.g., controlled lab settings) (Lecocg et al., 2005; Vecchio, 2013). Therefore, conducting EAs in the context of a winery tasting room provides the opportunity to examine tasting room visitors WTP for a new cold-hardy varietal in a place they would actually make wine purchases. This is important since it has been established that purchase context impacts consumers' WTP (Areni & Kim, 1993; Lusk & Fox, 2003; Thaler, 2008).

In addition to understanding wine tourists' preferences and WTP, it is important to understand wine tourists' involvement with wine in order to better understand their purchasing

behavior. Involvement is defined as "A person's perceived relevance of the object based on inherent needs, values, and interests" (Zaichkowsky, 1985, p.342) and has been shown to influence wine tourists' purchasing and consumption behavior (Bruwer, Lesschaeve, & Campbell, 2012: Bruwer, Burrows, Chaumont, Li, & Saliba, 2013). Therefore, exploring wine tourists' involvement will provide a way to better identify market segments and develop wine tourist's profiles. These profiles can help wine tourism operators develop targeted marketing strategies with the aim of increasing tasting room sales. This is especially important to emerging wine regions such as cold-hardy wine regions that may be attracting new and different types of wine tourists than the more established wine regions (e.g. California).

Research Purpose

The purpose of this research is to examine wine tourists' preferences in relation to price, WTP for a given cold-hardy wine, and involvement with wine to provide industry and tourism providers with information to enhance their marketing strategy specific to the tasting room. Marketing literature suggests multiple approaches to increasing sales, developing branding strategies, and marketing to general consumers in various sales contexts. But as emerging tourism providers, winery operators need to learn how to best market and differentiate new cold-hardy varietals specific to wine tourists in the context of the tasting room. To address this marketing issue, a multi-methodological approach is applied in this research since different methods could generate different outcomes (Tribe, 2001). Therefore, the use of SPCM, EAs, and wine tourists level of involvement is employed in this research to not just develop marketing strategies that lead to increased sales and awareness of cold-hardy wines, but to explore results across methodologies and discern best practices for future wine tourism research.

Outline of Chapters

This dissertation outline follows a three-article format, with each article addressing a section of the problem statement. The first article (Chapter 2) examines how different product messages may impact wine tourists' willingness-to-pay (WTP) using the Becker-DeGroot-Marschak (BDM) experimental auction method. The second article (Chapter 3) explores wine tourists' preferences for wine attributes in relation to price for a cold-hardy wine using stated preference choice modeling (SPCM). The third article (Chapter 4) examines how product, brand, and purchasing involvement impacts wine tourists' value of a given wine and their respective purchasing behavior. Chapter 5 discusses the findings of all three articles and provides conclusions, implications, and recommendations for future research. The purpose of Chapter 5 is to holistically examine and compare results from all three studies, providing different conclusions, implications, and recommendations than each of the individual articles (Chapter 2, 3, and 4).

CHAPTER 2: THE IMPACT OF DIFFERENT PRODUCT MESSAGES ON WINE TOURISTS' WILLINGNESS TO PAY: A NON-HYPOTHETICAL EXPERIMENT

Introduction

Wine tourism is a rapidly growing and promising tourism activity for rural areas. Recent viticulture advancements and growing consumer interest in wine, have melded to create new opportunities for wine tourism in areas where growing wine grapes was previously not feasible. In the year 2000, there were less than 3,000 wineries in the U.S. Today, there are nearly 9,000 (Franson, 2016). These new wineries are mostly small in scope and sell the majority of the limited amount of wine they produce in tasting rooms, making them dependent on tourism to attract visitors.

This rapid increase in the geographic spread and number of wineries represents an opportunity for rural areas that are increasingly turning to tourism to address the economic, environmental and sociological challenges faced by many rural communities. Pena, Jamilena, and Molina (2012) posit that rural tourism enterprises (including culinary) can contribute to a rural region's sustainability. Moreover, researchers (e.g., Clark & Chabrel, 2007; Ilbery, Saxena & Kneafsey, 2007; Sims, 2009) have discussed the concept of "Integrated Rural Tourism" (IRT) or "all around sustainable tourism," which is focused on the economic, environmental and sociocultural sustainability of rural communities. Viewed through an IRT lens, wine tourism can help boost the positive economic impacts associated with food tourism without negatively impacting the environmental or social health of the rural host community (Everett & Aitchison, 2008).

Nested within food tourism, wine tourism has the potential to help rural communities to be more sustainable by enhancing rural tourism development strategies (Henderson, 2004) and contributing to sustainable culinary tourism development (Pena, Jamilena, & Molina, 2012).

IRT focused wine tourism helps a host community's economy through marketing efforts that target specialty products perceived as authentic to the local culture and heritage. This is important as tourists are increasingly interested in food and drink products that are organically or locally produced and deemed authentic to the place they are visiting (Bessiere, 1998; Urry, 1990, Murray & Kline, 2015). Culinary tourism provides an opportunity to attract sustainability-focused travelers who tend to spend more money than mass tourists (Murray & Kline, 2015), thus benefitting the economies of rural communities (Enteleca Research and Consultancy, 2001).

Wine tourism can also help the natural environment in rural areas. Because people who visit wineries are also interested in the aesthetics of the surrounding region, it is important for wine tourism regions to work to support and protect the environment and natural resources necessary to support its tourism infrastructure (i.e. the landscape of vineyards and the surrounding rural community). Moreover, through successful marketing of locally produced products, wineries promote the "buy local" movement and thereby advocate for the protection of agricultural landscapes and natural resources within and beyond their immediate communities.

The Great Lakes region of the U.S. upper Midwest is now home to over 900 wineries (Vines & Wines, 2017). Although this represents about 10% of the country's wineries, this region accounts for only about one percent of U.S. wine production (Vines & Wines, 2017). One reason for the increase in the number of wineries in this region is the development of new wine grape varieties. These grapes, referred by some as "cold-hardy," are hybrids between "vinifera" grapes, that are commonly used to make wine throughout the world, and native "riparia" grapes that tend to survive harsh winters and ripen in a shorter growing season. Cold-hardy grapes produce lesser-known wine varietals with names such as "Marquette," "La Crescent," Frontenac," and "Brianna."

The rapid growth in the number of wineries in the Great Lakes region means there are a high number of inexperienced winery business owners and managers, there are many rural regions that are attracting tourists (or different types of tourists) for the first time, and there are more opportunities for people to visit wineries. In other words, many wineries in emerging areas are in the early stages of understanding their customers, and those customers are in turn learning about the extent to which they value wine tourism experiences. The ability for wine tourism to help address challenges faced by rural areas depends on the ability for winery businesses to quickly learn how to provide valuable tourism experiences to their visitors. The purpose of this research is to help wineries in the northern U.S. to learn more about how wine tourists value the wines made from "cold-hardy" grapes, and more specifically how information shared with them about these grapes impacts wine tourists' valuation of the wines. A better understanding of how different information about cold-hardy wines influence a consumer's valuation of the wine can help winery managers to make better decisions about promotional activities.

In any tourism context, understanding the value tourists place on tourism products, both tangible and intangible, can help businesses to match what tourists are willing to pay with an effective pricing strategy. Consumers' values, however, are dynamic. Different contexts, for instance, can change someone's value for a product (Lusk & Fox, 2003; Thaler, 2008). As an example, the amount a consumer is willing to pay for a bottle of wine will likely be different if they are buying that bottle at a retailer, versus buying it at a restaurant, or buying it at a winery. The cost of wine can vary considerably based on the context and wine purchased at a restaurant or winery can often be expensive compared to purchasing wine in a retail context such as a grocery store or liquor store. Other factors can also influence a consumer's willingness to pay for a product, such as the person (or people) the consumer is with at the time of purchase or the

occasion for the purchase (e.g. a gift, for personal consumption, or for a dinner party) (Thaler, 2008).

Finding the true value for a new product or service can be especially difficult when consumers have less experience with the product. In these cases, it is very important for the business to explain the attributes and benefits of the product to the consumer, so the consumer can best identify the extent to which they value it. Businesses do this by communicating specific messages about the product via staff, promotional materials, and labels. Although wine itself is not a new product, some of the wine varietals sold in emerging areas, especially in the northern U.S. (e.g., Marquette, Brianna, Petite Pearl, La Crescent), are made with, and named after, hybrid grapes that are new to wine markets. Moreover, wine is strongly associated with the regions where it is produced, so wine from emerging areas needs to be treated similarly to new products while the region attempts to establish its brand reputation.

In the tourism field, conjoint analysis or contingent valuation (e.g., Saayman, Krugell, & Saayman, A., 2016) methods, such as stated preference choice experiments are commonly used to establish willingness-to-pay (WTP). Tourism and recreation journals have featured many studies in which these types of methods have been used to identify the value visitors place on various tourism products and experiences. For example, Kelley, Rensburg, and Jeserich (2016) examine recreational walkers' willingness to pay for, or travel to, Irish trails through analysis of two stated preference datasets. Garcia-Yi (2014) used open-ended contingent valuation to study international tourists' willingness to pay for native dried chili peppers in Peru. Piriyapada and Wang (2015) studied visitors' willingness to pay an entrance fee for beach resource protection, and Youngjoon, Seok, Choong, and Dattilo's (2015) examined visitors' willingness to pay to preserve mudflats. All of these studies employed stated preference methods, and while they have

significant merits and make important contributions, one drawback to these types of experiments is that they are "hypothetical," that is, there are no consequences for the respondent of their stated value.

Experimental auction (EA) methodology is a growing approach to addressing the shortcomings of stated choice experiments (Lusk, 2003). EAs are non-hypothetical, as they seek to reveal a respondent's true value for a product or service by creating situations where subjects may be obligated to actually purchase a product or service during the experiment. Although growing in popularity in the behavioral economics and marketing fields, especially with food products, this approach to determining WTP has rarely been applied to the tourism field. The current study adds to the existing literature first by broadening research on wine tourism and tasting room visitors' valuation of wine product messages. Second, unlike previous studies on WTP for a given wine (e.g. Appleby, Costanigro, Thilmany, & Menke, 2012; Bazoche, Deola, & Soler, 2008) this study is novel in that it takes place in the context of the winery tasting room and obtains tasting room visitors WTP in a place and time where they typically make their wine purchases.

This study used the Becker, DeGroot, and Marschak (BDM) experimental auction procedure (Becker, DeGroot, & Marschak, 1964) to value a new varietal of wine being produced in regions in the northern U.S., where it was previously not feasible to produce wine from locally grown grapes. The wines that are sold in these regions are referred to as "cold-hardy" wines because they are made from wine grapes that ripen in a shorter growing season and can survive harsh winter conditions. These grapes are new hybrids between vitis vinifera grapes (the type of grapes used in the world's most recognized wine varietals) and native grapes that are cold-hardy but are not typically used for winemaking. These hybrid grapes have been well received by

winemakers and consumers, however with names such as Brianna, Frontenac, Marquette, Frontenac Gris, and La Crescent, they are unknown to most wine consumers. Most of the wineries that sell wines made from cold-hardy grapes are small producers and sell almost all of their wine out of winery tasting rooms (Holecek, McCole, Lee, 2016), which provides them with an opportunity to disseminate information about these wines directly to consumers via tasting room staff, tasting notes and wine labels.

Winery observations and discussions with owners of wineries that sell cold-hardy wine varietals showed that the messaging about the wines typically falls into three categories. The first type of message sought to capitalize on the interest in local foods by emphasizing that the grapes used for the wines were locally grown and the wines locally produced, thereby benefitting the local community. The second type of message seems to try to bolster the image of these lesser known varietals by focusing on the awards that were won at wine competitions by the specific wines being sold at the winery or, more generally, by the varietals sold. The third category of messaging about the wines is typical of all wineries and focuses on the sensory and production descriptions of the wines and the grapes from which they are made (e.g., "hints of blackberry," or "aged in English oak barrels for six months.")

Despite the consistent use of these messages, no studies have examined how different types of product messages about cold-hardy grapes and wines influence consumer WTP. Therefore, the present study examines how different types of product messages (information) can influence wine tasting room visitors WTP for a given cold-hardy wine using BDM experimental auctions. Specifically, we address the following research question: Do different types of product messages (local message, award message, sensory/production message) influence consumer willingness-to-pay for cold-hardy wine?

Literature Review

Willingness to Pay

As the number of wineries has grown throughout the world, so too have wine tourism studies, especially as wine tourism crosses over with such important and relevant niches as culinary tourism and rural tourism. A literature search for the keywords "wine tourism" produces over 1,000 peer-reviewed articles published since the beginning of 2015 (e.g., Byrd, Canziani, (Jerrie) Hsieh, Debbage, & Sonmez, 2016; Gomez, Lopez, & Molina, 2016; Saayman, Krugell, & Saayman, 2016). Many of these discuss the importance of wine tourism to rural areas (e.g., Asero & Tomaselli, 2015; Gomez, et al., 2015; Murray & Kline, 2015), and many, like the present study, aim to better understand the consumer behavior of wine tourists (e.g., Kim & Bonn, 2015). More specifically, several studies have examined wine tourists' willingness-to-pay (WTP) in various contexts.

In some cases, WTP is used as an indicator of some other construct rather than as a direct study of WTP. For example, in a study of attendee loyalty to a wine event, Tanford, Montgomery, and Hertzman (2012) inquired whether attendees would be willing to pay more to revisit the event in the future. In this study, the WTP item was used as one indicator of loyalty.

Most studies, however, use the concept of WTP to better understand the level to which consumers value a wine product based on some attribute of the wine. Studies of wine attributes can be either sensory (e.g., sight, smell and taste) or based on information shared about a wine. The studies on shared information are more common as most wine sales take place in a retail setting where the purchase decision is based almost entirely on information communicated about the wine, usually on the bottle label. Several studies, (e.g., Mueller, Lockshin, Saltman, and Blanford, 2010; and Charters, Lockshin, and Unwin, 1999) have therefore focused on the impact

of back label content on the consumer's purchase decision. There is evidence from these studies that consumers find descriptions of the taste and smell of the wines to be very helpful (Charters, Lockshin & Unwin, 1999), and can enhance their value for the wines (Mueller, Lockshin, Saltman & Blanford, 2010).

The tasting room setting, however, is much different than retail as the winery has more opportunities to share information with the consumer through such means as tasting notes, wine labels and one-on-one communication with winery staff. Moreover, the winery tasting room offers the visitor the opportunity to sample wines before making a purchase decision. The combination of wine sampling and greater opportunities to share information with consumers leads to the question of which of these has a greater influence on the consumer purchase decision and willingness to pay. In a study that explored this question, Lecocg, Magnac, Pichery, & Visser (2005) found that information about a wine influenced consumer WTP significantly more than taste.

In most cases, the tested attribute of a wine impacts the cost of production, so insights into consumer WTP is important to production and pricing decisions about wine products. For instance, several studies have examined WTP for "green" production practices, many of which increase production costs of a wine. Brugaroles, Martinez, Pveda, & Perez (2005) examine WTP for organic wines. Barber (2012) use wine consumers' expressed intentions to pay more for environmentally-friendly wines as a way of examining commitment to environmentally-friendly winemaking practices. Mueller and Remaud (2013) use WTP to better understand the influence of corporate responsibility on consumer purchase choices, and Barber, Taylor, & Strick, (2009) assess how environmental knowledge and attitudes influence willingness to purchase environmentally-friendly wine products. Although many studies about wine and green practices

indicate that consumers indicate a willingness to pay more for environmentally-friendly wine products, the findings in the literature are not consistent. For instance, Loureiro (2003) found that consumer WTP for eco-labeled/environmentally-friendly wines in the emerging wine region of Colorado did not elicit a meaningful increase in WTP. Colorado is not widely recognized as a wine producing state, however, so it is possible that perception of quality is also at play in consumer valuation of wines, especially in emerging regions that have not yet established a reputation for wine production.

Because discerning the value of an unfamiliar wine can be difficult for wine tourists, many consumers rely on easily recognized and understood signs of quality (i.e., award labels, medals) for choosing a wine (Orth & Krška, 2002). For instance, Schmit, Rickard, and Taber (2013) found that consumers' WTP depended more on quality signals than environmentally-friendly label information. Similarly, Orth and Krška (2002) showed that wine exhibition awards for a given wine are important to highlight as they positively impact consumer preference for a wine.

Although related to environmentally-friendly practices, some research has focused specifically on consumers' willingness to pay for local wines. One challenge to studies of "local foods" is that the term "local" is conceptualized in many different ways and its definition is unclear among consumers (Pearson et al., 2011). Despite such challenges, research has generally suggested that consumers have stated a willingness to pay a premium for locally produced food products (Bosworth, Bailey, & Curtis, 2015; Feldman & Hamm, 2015; Lang, Stanton, & Qu, 2014). However, some have argued that because of its association with geographic regions and terroir, wine is different than other food products when it comes to consumer behavior, as wine quality has a stronger association with certain geographic regions than other foods (Defrancesco,

Orrego, & Gennari, 2012; Lockshin & Hall, 2003; Schäufele & Hamm, 2017). In emerging wine regions, local wines may not draw the same value to consumers as wines from more established areas.

To build upon the literature, this study measured the WTP among visitors to winery tasting rooms for a cold-hardy wine (Marquette) based on three different message themes: 1) local benefits; 2) sensory description of the wines; and 3) recognition and awards combined with a sensory description. The third message used a combination of a an award focused message with a sensory message because it is common for tasting room staff to discuss awards a cold-hardy wine may have won in conjunction with sensory characteristics when communicating with tasting room visitors. Because cold-hardy wine varietals are relatively new and are largely sold out of winery tasting rooms, the study was conducted on-site at a winery tasting room, a context for which there does not appear to be any WTP studies in the literature. Based on previous studies and these three different product message themes, we hypothesize that:

H1: Subjects will increase the value of their bids after reading an information message about Marquette wine.

H2: The type of information read will have varying effects on subjects' bids.

H3: Subjects will increase the value of their bids by a greater amount after reading an information sheet with a "local message" compared to sensory or award information message.

Experimental Auctions

A criticism of many WTP studies throughout the literature is that they are hypothetical. In a study about environmental commitment, Saayman, et al. (2016), used a contingent valuation method to study wine tourists' WTP for greener events. The study surveyed patrons at a wine festival in South Africa and found that although many people expressed a willingness to pay

more for entrance into a greener event, many declined to so when given a chance. Respondents had been given a voucher for their participation in the study and were later given the option of donating the value of the voucher to a local environmental cause. Fewer than 50% were willing to donate their voucher. This study highlights the difference between stated intentions and actual behavior and offers a caution about the use of hypothetical experiments to measure WTP.

A review of research on WTP for environmentally-friendly produced products or wines showed that the majority of these studies use hypothetical methods such as stated preference methods or conjoint analysis. These methods are useful in producing estimates of WTP, but do not measure actual WTP because true market discipline is lacking and no matter the quality of a survey, the consumer knows they are hypothetically valuing a product or service and are not required to make any actual purchases (Lusk & Shogren, 2007).

Some research has been done on WTP for wine in relation to environmental-labeling using experimental auctions (Vecchio, 2013), but the sample was restricted to undergraduate students and it took place in a controlled non-market environment. The present study, however, took place on-site at a winery and therefore measured WTP of wine tourists at a tasting room, the main point of sale for most wineries selling cold-hardy wines. Lecocq et al. (2005) used experimental auctions to explore the impact of socio-demographic variables and wine information's impact on consumers' WTP, but the experiment focused on the presence or absence of information, not the specific type of information. The present study differs from previous studies on wine consumers' WTP, not only by focusing on how local, sensory, and award winning product messages can impact tasting room visitors' WTP for a given cold-hardy wine, but also by using a non-hypothetical experiment that is conducted at an actual wine tourism point of purchase with actual wine tourists. The BDM experimental auction is perfectly

suited for these conditions, and it is believed that this is the first time this type of auction has been conducted in a tourism context.

Methodology

Experimental Auction Design

Experimental auctions are a form of non-hypothetical valuation that is well established in the agriculture and food industry literature (e.g., Lusk, Fox, Schroeder, Mintert, & Koohmaraie, 2001; Shogren, Shin, Hayes, & Kliebenstein, 1994; Tagbata & Sirieix, 2008). The BDM auction procedure asks subjects, after some exposure to a product, to bid what they would be willing to pay for the product. That bid is then compared to a randomly drawn price. If the subject's bid is higher than the randomly drawn price, the subject purchases the product (though as an incentive they purchase it for the lower randomly drawn price). On the other hand, if the randomly drawn price is higher than the subject's bid, the subject is not able to purchase the product. This procedure is structured to elicit the subject's true value for the product. It is not in the subjects' interest to bid higher than they are willing to pay for the product, since they might then be obligated to purchase the product for more than it is worth to them. Conversely, if subjects underbid, they risk losing the opportunity to acquire a product they desire at a price they are willing to pay.

This study used a BDM experimental auction procedure to elicit the impact of different types of information on wine tourists' WTP for a bottle of Marquette wine. Introduced less than ten years ago, Marquette is a newer cold-hardy varietal of dry red wine that is receiving high praise and attention from winemakers in the northern U.S. While most experimental auctions are conducted in a laboratory setting with subjects recruited and incented to participate, the BDM is typically conducted at the point of purchase. This study was conducted at a winery in a rapidly

growing wine region in northern Michigan in the United States. Because the purchase context impacts consumers' WTP (Areni & Kim, 1993; Lusk & Fox, 2003; Thaler, 2008), conducting the BDM auction at the winery best simulated the purchase context of actual winery purchases. Additionally, subjects in the experiments were typical of the target market for small wineries in emerging wine regions, and because they were intercepted while visiting a winery, they were already open to the possibility of purchasing wine. Although subjects were given a small incentive to participate (a $3 coupon to the winery), they were not given an endowment that could be applied to the purchase of the auctioned wines, as is sometimes the case with experimental auctions. The reasons for this were both practical (research budget) and because it was not deemed necessary in this particular context as subjects were in the market for wines anyway.

Sample

A random sample of winery visitors (wine tourists) were intercepted and invited to participate in the experiments. Because Marquette is a dry red wine, a screening question was used to ascertain whether these randomly intercepted wine tourists drink dry red wines. If they indicated that they do, potential subjects were briefly informed about the experiment and that their participation required a commitment to actually purchase a bottle of wine if their bid for the wine was higher than a randomly selected competing bid.

Procedure

Subjects then read a consent form, completed a short survey, and received detailed instructions about the experiment's procedures to help them understand the process as well as to learn why it is in their best interest to bid their true value for the wine (see APPENDIX A for the

full protocol). Along with demographic items, the survey asked subjects about their level of wine knowledge and their familiarity with Marquette wines.

Subjects were then poured samples of four different Marquette wines. Because this study aimed to measure the impact of different types of information on wine tourists' value for a wine, it was considered important to have a product that subjects valued before obtaining the information treatments, as it is unlikely that any information would change the value of an undesired wine. To increase the odds of having at least one wine that subjects would enjoy enough to consider buying a bottle, subjects sampled and made bids on four different versions of Marquette.

A wine sleeve was put over each bottle to control for possible bias due to the design or information on the label. Subjects were asked to observe, smell and taste each of the wines, and then bid what they would be willing to pay for a bottle of each. Next, subjects were asked to read a short information sheet about Marquette grapes and the wines made from them and were asked again to bid what they would be willing to pay for a bottle of each wine. The difference between the first and second bid of subjects' most valued wines (the wine subjects bid highest for) was used to determine the effect of a product message on each subject's valuation of the wine.

Each subject was given one of three different information sheets when he/she read about Marquette grapes and wines (see APPENDIX B). Assignment to each group followed a systematic rotation to ensure that variations in day and time were controlled for. One information sheet had a "local message" that emphasized that Marquette wines were made in a community from locally grown grapes. The message then briefly explained some of the benefits to the local community from being able to produce wine locally (see APPENDIX B). A second version communicated that Marquette is a hybrid of cold-hardy grapes and pinot noir, and

provided subjective descriptors about the wine as is typical of wine descriptions provided by tasting room staff and found on wine labels, wine menus, and tasting notes (See APPENDIX B). The third version informed subjects that Marquette wines have been well received by winemakers and have won many awards at wine competitions (See APPENDIX B). All of the information provided in the messages is accurate and representative of the information provided to consumers by wineries that produce Marquette wines, as determined by interviews with six winery owners to identify how they describe Marquette wine and grapes to their winery visitors. Drafts of the information sheets were shared with the winery owners to ensure content validity.

After subjects completed all their bids, they had generated eight bids (two for each of the four wines). One of these eight bids were then randomly selected as the "binding bid" by rolling an eight-sided die. This binding bid was the only bid that was used for the rest of the experiment. The binding bid was then compared to a competing auction bid, which was drawn from a bingo/lottery cage with balls representing prices ranging from $0 to $35, at 50-cent increments. If the subject's binding bid was higher than the randomly drawn bid from the bingo cage, the subject then bought and took home a bottle of the Marquette wine. If the subject's bid was lower than the randomly drawn bid price from the bingo ball cage, the subject was unable to purchase the wine and the experiment was over. Figure 2.1 illustrates the experimental auction design.

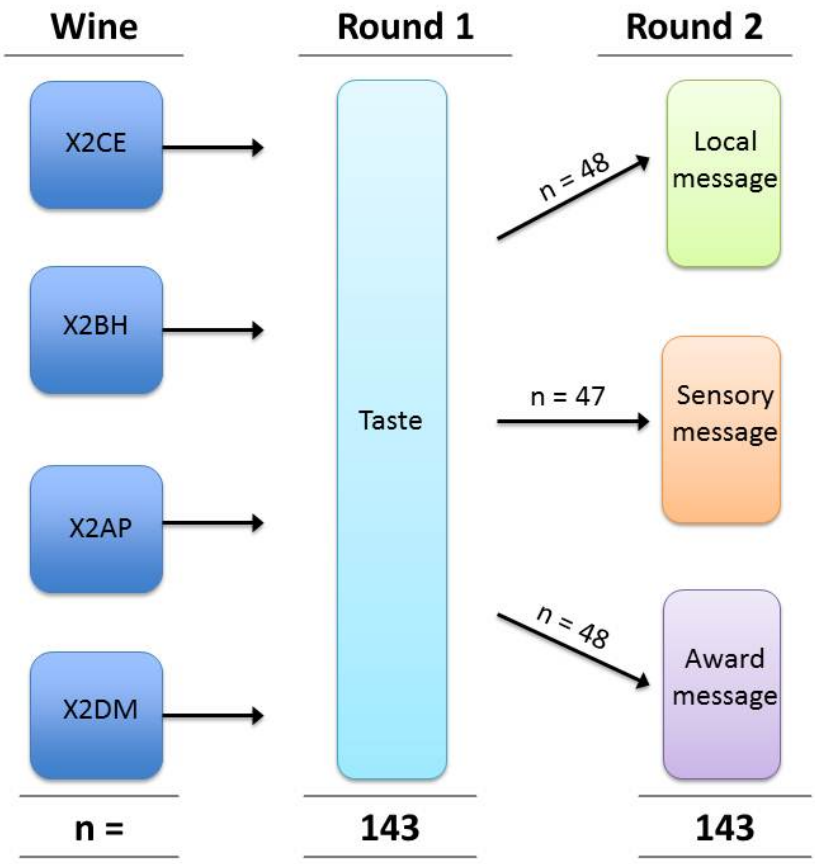

Figure 2.1 Experimental auction design

Data Analysis

Analysis began by first identifying the "most valued" wine for each subject. The experiment used four different Marquette wines to increase the odds that subjects would find a wine they liked enough to bid a realistic price for it. The most valued wine was the one for which the subject provided the highest bid in the second (post-treatment) round. If there was a tie for the highest bid, one of the tying wines was randomly selected.

To determine whether there was a difference in bids after reading any of the information sheets, mean bids were calculated for each of the two rounds of bidding and compared using a paired samples t-test. To determine if wine tourists' values increased by different amounts based

on the type of information shared with them, independent t-tests were conducted on the means of the differences between the first and second bids for the treatment groups.

Results

Description of Sample

A total of 143 randomly intercepted wine tourists completed this experiment. This sample size and number of bids collected is consistent with other BDM auction studies (Combris, Lange, & Issanchou, 2001; Didier & Lucie, 2008; Ginon, Chabanet, Combris, & Issanchou, 2014; Noussair, Robin, Ruffieux, 2004).

Because researchers were specifically interested in tasting room visitors' WTP for Marquette wine, this study focused on the population of wine tourists who visit and often purchase wine at wineries, rather than the general population or wine consumers at other points of sale (e.g., retail or restaurants). Table 2.1 summarizes the socio-demographics of the study subjects. The average age of participants was 44 and 46% were female. Just over 83% of participants were from the state of Michigan, 95.5% were Caucasian, 77% had at least a 4-year college degree and 71% had a household income above the region's median. Only 29% of participants indicated they were "knowledgeable" or "very knowledgeable" about wine in general. These characteristics are similar to typical wine tourists in the upper Mid-west based on the results of a 2012 study of Michigan winery tasting room visitors, and a 2015 study of visitors to Wisconsin and Minnesota wineries (Holecek, McCole, & Lee, 2016). Participants in the present study were mostly unfamiliar with Marquette wines with 86% indicating they had never heard of any of these wines.

Table 2.1 Participants' socio-demographic characteristics

Variable	Categories	Values in %
Gender	Female	54.2
	Male	45.8
Education	High school	7.2
	Some college	9.4
	College degree	43.5
	Graduate Degree	34.1
	Other	5.8
Household Income	Less than $50,000	11.4
	$50-70,000	17.4
	$70,000+	71.2
Ethnicity	American Indian	1.5
	Arab	0.7
	Caucasian	95.5
	Hispanic, Latino, Spanish origin	2.2
	Black, African American	0
	Chinese	0
	Asian Indian	0
	Other Asian	0

Changes in Bids after Information Treatment

A total of 28% of subjects changed their bids amounts after reading the information sheets. Most of these (21.7%) increased their bids, while 6.3% decreased the value of their bids. Figure 2.2 shows the change in bids for all subjects as well as for the three treatment groups.

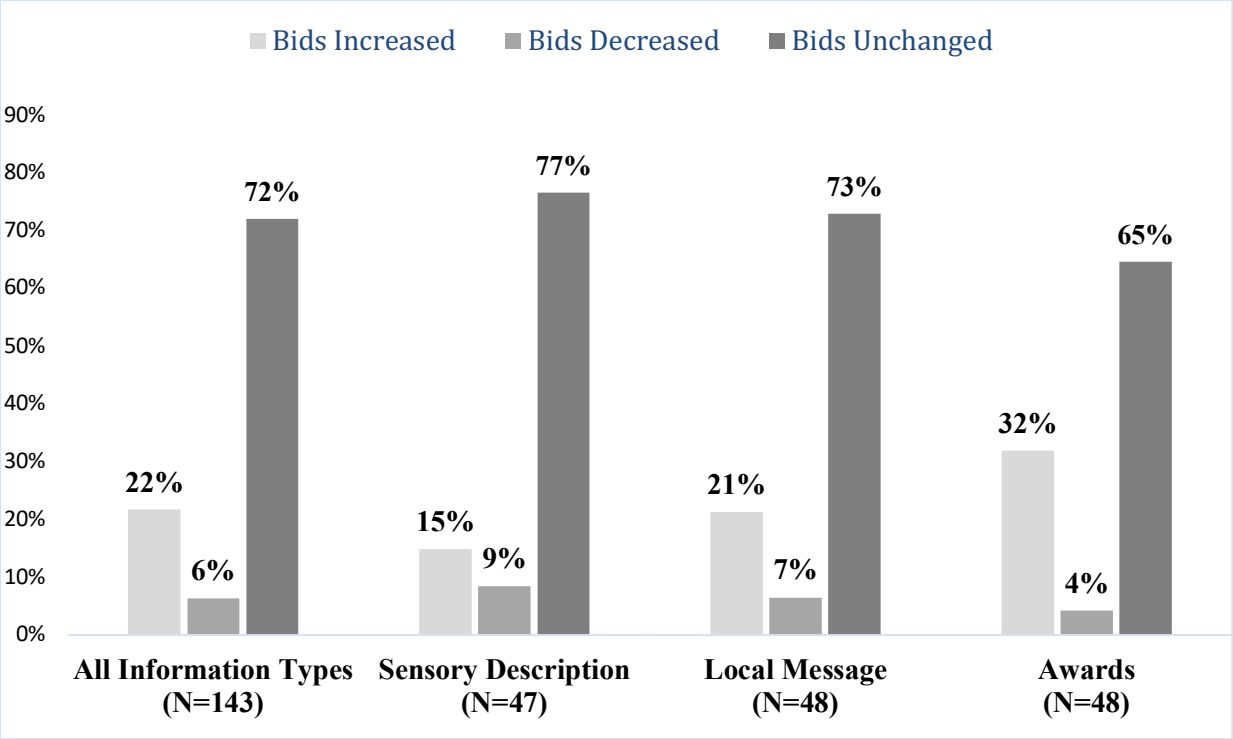

Figure 2.2 Change in bids after reading information sheets

Figure 2.3 shows the mean change in value of all bids (not just those that changed) after subjects read the information sheets. On average, bids increased by an average of $.61 for all participants regardless of the information message they read, supporting H1. Those who read the sensory description increased their bids by $.04, but not by a statistically significant amount. Bids increased by statistically significant amounts for those who read information sheets with local messages (by $.58) and award messages by ($1.21). Table 2.2 shows the results of the t-tests for these bid changes. The widely varying amounts by which wine tourists in the different treatment groups increased their bids after reading the information sheets shows support for H2.

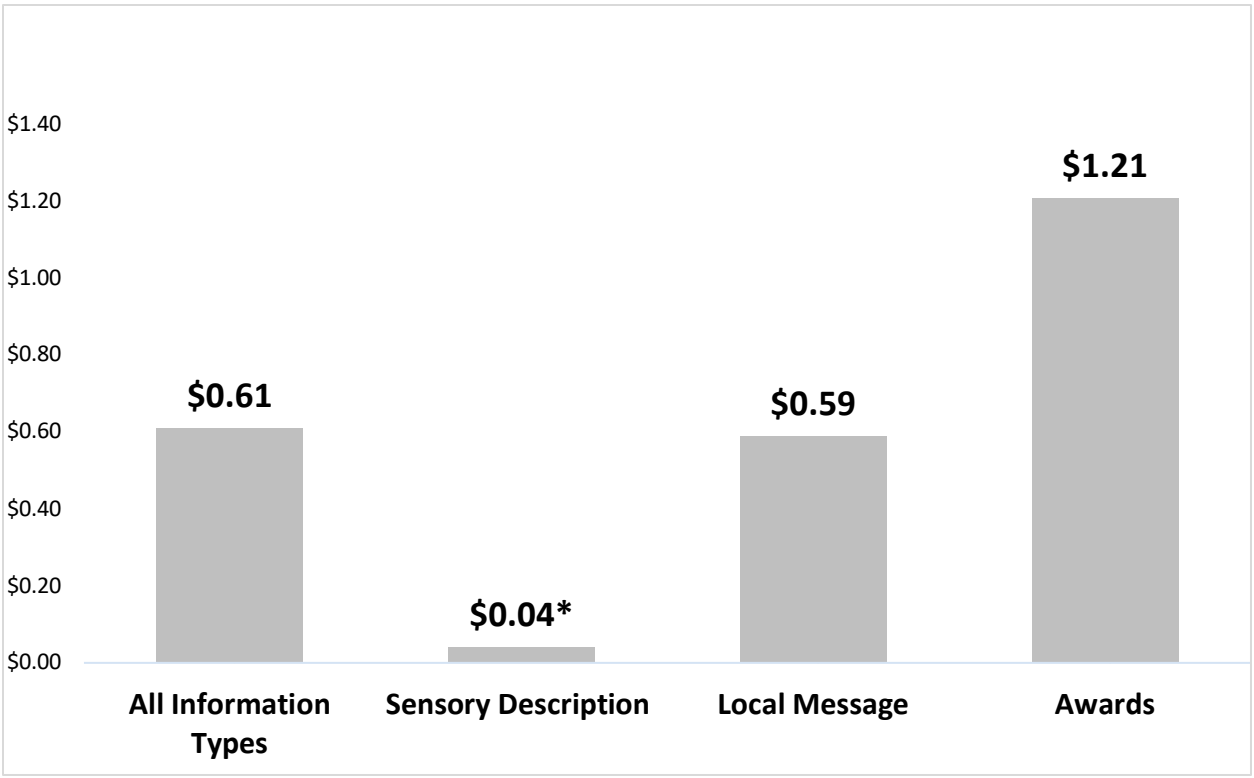

Figure 2.3 Effect of different information types on consumer value

Table 2.2 Effect of different product messages on willingness to pay ($/bottle of wine)

	Before Message		After Message				
	M	**SD**	**M**	**SD**	**t** (47)	**p**	**d**
All Messages	15.76	5.39	16.37	5.70	3.55	*<.001*	*.26*
Local Message	15.10	5.01	15.69	5.50	2.179	*.034*	*.27*
Sensory Message	16.19	5.93	16.23	5.85	.206	*.837*	*.03*
Award Message	15.94	5.22	17.15	5.76	3.250	*.002*	*.45*

Table 2.3 shows the result of an independent t-test showing that the increase for those who read the information sheet with the awards message was statistically higher than for those who read the information sheet with the local message. This result refutes H3.

Table 2.3 Mean change in bids between "local" and "award" treatments

Local Message		Award Message				
M	**SD**	**M**	**SD**	**t** (142)	**p**	**d**
$.58	1.85	$1.21	2.58	-1.364	*.036*	*.26*

Discussion

Impact of Information on WTP

Results of this study show that information shared about wines can change wine tourists' value of a wine. Moreover, the study provides evidence that the specific information shared can impact the extent to which wine tourists alter their value of wine. This is important because there are limitations on how much information wineries can effectively communicate with consumers. Consumers at a winery tasting room may have a limited attention span to both read or listen to information about the wine, especially in emerging wine regions where previous research has shown the greatest motivation for visiting wineries has more to do with socializing and enjoying a relaxing day out than learning about wine (McCole & Holecek, 2013). Furthermore, many wine consumers learn about wines from the wine label and tasting notes provided in the tasting room, both of which offer limited space to communicate messages about the wine.

In this study, reading any type of product message about the sampled wines, increased wine tourists' willingness to pay for a bottle of that wine. This is consistent with the findings of Lecocq, et al., (2005) who used a different type of auction, the Vickrey auction (Vickrey, 1961), and found that any information about sampled wines increased consumer's value for the wine. Although product messages in general were found to increase wine tourists' value in the present study, certain types of messages increased WTP more than others. Messages about awards the wine had won in wine competitions had the greatest impact on consumer WTP. This finding is consistent with Orth and Krška (2002), who also found that awards positively impact WTP, this

suggests that such information should be prioritized in communications with wine tourists via tasting room staff, labels, tasting notes, websites, etc. Additionally, many wineries that have won awards make a special effort to communicate the awards such as displaying their medals in the tasting room or affixing a separate award sticker to the bottle. The results of this study suggest that such investments may be worthwhile. Similarly, the findings suggest that it might be advisable for wineries to enter as many wine competitions as possible in order to increase the odds of winning awards. Many wine competitions are held annually ranging from local to international. The product message shared with subjects did not mention any specific awards, but rather vaguely referred to awards at wine competitions. Previous studies have shown (Holecek, McCole, & Lee, 2016; McCole & Holecek, 2013) showed that visitors to winery tasting rooms in the Great Lakes Region are not particularly knowledgeable about wine, so they are likely unaware of which wine competitions are most prestigious.

In addition to awards increasing subjects' WTP, results also show that visitors are willing to pay more for wine that is produced locally. This finding is consistent with many previous studies that have shown consumers are willing to pay more for locally produced food products (Bosworth, Bailey, & Curtis, 2015; Lang, Stanton, & Qu, 2014). However, in a study examining consumers' value for locally-produced wines (Loureiro, 2003), the locally-produced status of the wine did not elicit a higher premium unless the quality of the wine was first established. The findings in that indicated that eco-labeling (e.g., locally-produced, environmentally-friendly) only increased consumer WTP for wines from regions that consumers perceived as producing quality wines. While the present study provides evidence that visitors will indeed pay more for local wine, they still seem to value the quality of the wine more than its local status, a finding that seems consistent with the Loureiro study.

Implications for Wine Tourism Industry

For the tourism industry, providing quality amenities, products, and green practices are of concern and interest (Carlsen, Getz, & Ali-Knight, 2001), but since such practices typically add expense, it is important for tourism operators to know the extent to which visitors value such products. Implementation of environmentally friendly practices has also become a key issue for wineries (Marshall, Cordano, & Silverman, 2005), creating increased pressure for the wine tourism industry to not only provide locally produced wines, but to do so by employing and promoting more sustainable and environmentally-friendly practices. Based on this study's findings, marketing the benefits of locally produced wine may be more successful in increasing WTP if the quality (i.e., award winning wine) is simultaneously promoted or already established in the region.

It is also worth considering what wine awards mean to the wine tourist. It is possible that the awards suggest external credibility. The literature has long established that experts can impact consumer decisions in such contexts as art auctions (Bauwens & Ginsburgh, 2000), sports betting (Avery & Chevalier, 1999), financial stock markets (Shleifer, 1986), restaurants (Chossat & Gergaud, 2003), and even wine (Ali, Lecocq, & Visser, 2005). If wine tourists learn that a knowledgeable wine expert, such as a competition judge, thinks a wine is worth a medal, it's possible that it is the opinion of this outside expert that the consumer values. It's also possible that it is simply the fact that an independent person (regardless of expertise) has deemed these wines worthy. In this study, the sensory description of the wines, a message controlled by the winery, did not increase the amount the wine tourists were willing to pay for the wine. It may be the objective nature of the award that causes the increase in consumer value, rather than expertise of the objective person.

It is also feasible that the award is a sign to the consumer that the wine is of high quality. Studies of consumers have shown that they are willing to pay more for a good with a higher perceived quality (e.g., Hanneberry & Armbruster, 2003), and this is true too of wines (Ali & Nauges, 2007; Orth & Krška, 2002; Schmit, Rickard, and Taber, 2013). Future studies are needed to better understand why association with an award raises the amount wine tourists are willing to pay for a bottle of wine.

This study's seemingly small sample size is typical of BDM auctions conducted in the field. Experimental auctions are time consuming and expensive as the researcher must provide an actual product to sell. For instance, each BDM auction conducted for this research took an average of 20 to 30 minutes to complete, and once the experiment was complete, additional time was spent with participants answering questions and completing purchases (if applicable). When conducting the BDM auctions researchers need to have the product on site for the participants to purchase. This research included four different Marquette wines that were purchased for the study and although these wines were purchased at cost for research purposes, this was costly. Depending on the research budget, obtaining/purchasing enough product to conduct experimental auctions can limit the sample size. In this study, the number of auctions that were conducted was dependent on the number of wines sold during the experiments, as well as on how much wine was initially purchased to do the experiments, which was dependent on the research budget. Lastly, conducting BDM auctions for a product such as wine may require additional licensing approval. Since researchers were the individuals selling the wine to participants (not the winery), special licensing from the Michigan Liquor Control Commission (MLCC) was required. A license was obtained on the basis that selling the wine was part of an educational program (a Ph.D. research project), that the experimental auctions were only to be licensed for

four days, and that auctions would just take place on those four days during the host winery's operating hours. The license therefore limited researchers to four days of data collection.

For these reasons, most BDM auctions have smaller sample sizes than, for instance, survey research projects. This study's sample size of 143 is larger than many BDM studies conducted in an actual market environment (e.g., Combris, Lange, & Issanchou, 2001; Didier & Lucie, 2008; Ginon, Chabanet, Combris, & Issanchou, 2014; Lusk & Fox, 2003). For this study, the researchers were willing to accept the increased risk of Type I or Type II error, (which increase with smaller sample sizes) in order to conduct a non-hypothetical experiment in a realistic purchase context.

Additionally, this research was specifically focused on wine tourists and winery tasting rooms located in a cold-climate region. While the sample was characteristic of typical wine tourists for this region (McCole & Holecek, 2013), caution should be taken when it comes to generalizing the results to other purchase contexts (e.g., grocery store, liquor store, etc.) and wine tourism regions. Replication of this study in other regions, and potentially other contexts is recommended.

Conclusion

Wine tourism is a rapidly growing sector of tourism and offers great potential to rural areas. In addition to the tourism activity at wineries, by attracting visitors to the areas in which the wineries are located, wine tourism can create opportunities for other complementary businesses such as bed and breakfasts, restaurants that showcase local foods, craft beverage businesses (e.g., breweries, cideries and distilleries), bakeries, chocolate shops, art galleries, gift shops, etc. However, if wine tourism is to realize its potential, emerging and inexperienced winery owners need to quickly understand a target market that is, itself, largely new to wine

tourism. In emerging regions where new varietals of wines are being introduced, the challenge of educating consumers and determining their values adds an additional challenge. This study offers some insights as to where consumer education should begin.

CHAPTER 3: TASTING ROOM VISITORS' PREFERENCE FOR COLD-HARDY WINE ATTRIBUTES: A STATED PREFERENCE CHOICE MODELING STUDY

Introduction

In the 1990s, new hybrid grapes and wines were developed to withstand colder climates and ripen in a short growing season. The successful development of cold-hardy grapes and wines has created a surge in small wineries and vineyards throughout the upper Midwest and Northeast United States (U.S.). Because cold-hardy cultivars can survive in areas where traditional wine grapes (i.e., Vitis vinifera) cannot, winery's and vineyards have emerged in rural areas that otherwise would not be able to support their growth. This has not only increased economic activity via a developing wine industry to such regions, but it has also created wine tourism opportunities for these rural areas.

Wine tourism is a popular activity among tourists and is defined as "…a form of special-interest travel based on the desire to visit wine-producing regions or in which travelers are induced to visit wine-producing regions and wineries in particular, while traveling for other reasons" (Brown & Getz, 2005, p.226). Wine tourism can include visitation to vineyards, wineries, wine festivals and wine shows, and is focused on grape wine tasting and/or experiencing the culture and characteristics of the grape wine region (Hall et al., 2000). As wine tourism is a rapidly growing activity among tourists, research has shown that understanding wine tourist behavior and motivations for visitation is important to identifying what visitors desire in a wine tourism experience (Brown & Getz, 2005; Lockshin & Corsi, 2012). Equally important is understanding the exact components of the wine product that wine tourist's value.

Studies have determined that there are numerous attributes tourists associate with the wine tourism experience (Getz & Brown, 2006; Sparks, Roberts, Deery, Davies, & Brown, 2005), with research suggesting that a core part of the experience that visitors are seeking

specific to wine tourism is education (Bruwer & Alant, 2009; Charters & Ali-Knight, 2002; Sparks, 2007). Bruwer and Alant (2009) found that learning was one of the top five motivating factors for tourists to visit South African wineries. Charters and Ali-Knight (2002) identified that wine tourists had a high desire for education as 70% of survey respondents viewed education as an important factor in their wine tourism experience. Considering the importance of education to visitors, it is vital for winery operators to understand what type of wine product information is most important to communicate when educating its visitors. In the context of the tasting room, winery operators have several opportunities to educate their visitors, including providing information through direct communication with tasting room staff, providing tasting room notes (i.e., cards containing brief descriptions of the wines), promotional materials in the tasting room, and wine labels. Through these various forms of communication, winery operators must be strategic in communicating wine information that most impacts visitors' valuation of the wine. Winery operators can better select information to communicate and educate visitors by identifying wine tourists' preferences (i.e., value) for different wine product attributes.

Additionally, while the experience and education component may be important to wine tourists, it is also true that small, rural wineries are very dependent on tasting room sales as a source of revenue (Holecek, McCole, & Lee, 2016). In order to successfully market their wines out of their tasting room, winery leaders need to understand their visitor's preferences in relation to their wine tourism product (e.g., the wine tourism experience, the wine itself, food offered, education offered, etc.). Therefore, the focus of this study is on wine tourists' preference for wine information in the form of wine attributes, in relation to price. The research question guiding this study is: How do different informational messages influence tasting room visitors' value for a given cold-hardy wine?

Literature Review

When choosing a wine for consumption consumer evaluation of wine involves numerous factors, and these factors vary based on the purchase setting (Quester & Smart, 1998). For instance, a consumer shopping at a grocery store with anywhere from 700 to a 1000 brands of wine are influenced by different factors when selecting a wine than a consumer choosing a wine at a tasting room that features only 10 to 20 wines (Lockshin & Hall, 2003; Thaler, 2008). Factors that influence the purchase decision in a retail setting are external in nature and include, but are not limited to, the wine packaging, retail shelf location, and brand name. Whereas in the winery setting, that tasting room experience has a direct impact on purchase decisions (Chaney, 2000; Shapiro & Gomez, 2014). Because tasting room visitors are interested in learning about wine as part of their wine tourism experience (Charters & Ali-Knight, 2002), an exploration of how different informational messages impact tasting room visitors' valuation of wine will provide winery operators information about which attributes to highlight when educating its visitors. Results could identify which attributes should be highlighted to better market and sell their wines specific to the tasting room context.

There have been numerous studies exploring the impact of different wine attributes on consumer value and choice of wine (Lockshin & Hall, 2003; Lockshin, Jarvis, d'Hauteville, & Perrouty, 2006; Mueller, Lockshin, Saltman, & Blandford, 2010; Orth & Krska, 2002; Rasmussen & Lockshin, 1999). Some attributes found to be important to consumers' decisions to purchase wine include price (Keown & Casey, 1995; Mueller et al., 2010), brand name (Lockshin, Rasmussen, & Cleary, 2000; Lockshin et al., 2006), regional branding (Rasmussen & Lockshin, 1999), and exhibition awards (Lockshin et al., 2006; Orth & Krska, 2002). While these studies have identified influential wine attributes on consumer purchase behavior, they focus on

the retail setting (i.e. grocery stores, liquor stores or wine shops, or convenience stores). There are few studies exploring wine attributes impact on tasting room visitors' preferences and valuation of wine specific to a tasting room setting, and none in cold-climate regions that support the cold-hardy wine industry. Additionally, the majority of research published specific to wine tourism concentrated on socio-demographic variables and wine tourists' psychographics (Lockshin & Corsi, 2012).

Stated Preference Choice Modeling

One method used in tourism research to discern consumers' value for a specific tourism product and their associated attributes is stated preference choice modeling (SPCM). Researchers have been able to identify tourists' preference for a particular product or experience using this method (Kelley, Rensburg, & Jeserich, 2016; Oh, Ditton, Genter, & Riechers, 2005; Piriyapada & Wang, 2015). For an overview of stated preference modeling specific to tourism, see Louviere and Timmermans (1990). Specific to wine research, there have been several studies examining wine attribute information's impact on consumer preference for wine relative to price (Batt & Dean, 2000; Lockshin et al., 2006; Mueller et al., 2010).

SPCM asks consumers to make trade-offs and choose among products or experiences; each having a different mix of the "product's" attributes. Each choice that is made represents the respondent's utility (i.e., value) of a particular product with its attributes (Louviere, Hensher, & Swait, 2000; Pearmain, 1991). SPCM uses simulated choice behavior to therefore reveal the extent to which consumers value specific attributes and/or combinations of attributes of a given product or experience. SPCM modeling is based on the theoretical framework of random utility maximization (McFadden, 1974) and Lancaster's consumer theory (1966), which posits that individuals make choices to maximize utility and those utilities are defined over selection of a

combination of attributes for a good or service (Adamowicz, Louviere, & Swait, 1998; Louviere et al., 2000; Hanemann, 1984). Therefore, SPCM can be used to elicit wine tourists' preferences (i.e., utility) for different wine attributes of a given cold-hardy wine. Identifying preferences provides winery operators with predictive ability and foresight about how wine tourists are likely to respond to different combinations of wine attribute marketing strategies and promotional tactics (Lawson & Manning, 2002).

Wine Name

While the wine name for consumers can provide signals of quality, entertainment value, or trigger a wine or brand preference, for a cold-hardy wine producer, choosing a name for these uncommon varietals is challenging. There are two options wine producers often consider when choosing a name for a cold-hardy wine. The first option is to name the wine after the specific grape cultivar(s) used to produce the wine varietal (e.g., Frontenac, Frontenac Gris, Marquette, LaCrescent, Brianna, etc.). This would allow winery operators to build specific awareness of cold-hardy grapes and wines and educate tasting room visitors about these emerging wines through the grape name itself. Moreover, such an approach is consistent with the norms throughout the U.S. where it is common for winemakers to identify their wines by the grape from which it is made (e.g. Merlot, Cabernet Sauvignon, Chardonnay, Pinot Gris) (Chaney, 2000). For these reasons, some in the cold-hardy wine industry support naming cold-hardy wines after the wine grape cultivar(s), despite them being recognized less than more common vinifera grapes.

Because there is low recognition of cold-hardy hybrid grape varieties (McCole, Holecek, Lee, & Eustice, 2018) some winery operators prefer to give wine a proprietary brand name (e.g., Raging River Red or Waterfall White). Branding is a strategy used to differentiate from competitors in the form of a name, label, symbol, etc. (Chaney, 2000). This second option can be

beneficial for individual wineries that are trying to build brand awareness for their specific winery and their wines, whereas the first option helps to build awareness for the larger cold-hardy grape and wine industry.

Award Designation

There are numerous characteristics consumers use to evaluate wine quality in a retail setting when making a purchase. Most of these are external characteristics such as price, brand, region, vintage, recommendations, and awards (Goodman, 2009; Lockshin et al., 2000). Among these characteristics previous, research suggests that consumers tend to use quality signals such as wine exhibition awards when purchasing wine (Hauck, 1991; Orth & Krska, 2002). Orth and Krska (2002) also found consumers to be slightly sensitive to pricing levels for wines possessing exhibition awards based on the level of award. In this research conducted in wine retail shops in the Czech Republic, respondents valued wine with a gold award at a slightly higher price point than with a silver award. These findings provide winery operators and tasting room management with information about the relationship between award designations and pricing. However, because it cannot be assumed that general consumers in Czech value award designations the same way wine tourists do in cold-climate regions, it is unknown if a slight sensitivity to award levels will also have significance in contexts such as winery tasting rooms in the U.S, and more specifically, for unfamiliar wines such as cold-hardy wines.

For small wineries in the cold-hardy wine regions, the decision to participate in award exhibition contests can bear significant cost, but knowing if wine tourists prefer wines that have won an award, winery operators can make more informed decisions about entering their cold-hardy wines into wine competitions.

State Designation

Wine tourism is often viewed as one component of a larger form of tourism called 'culinary tourism'. Culinary tourism provides opportunity for local farmers, restaurants, and other food and beverage producers to draw tourists that are increasingly interested in authentic and unique experiences that connect them to the product's origin and place they are visiting (Dimara & Skuras, 2005; Plummer, Telfer, Hashimoto, & Summers, 2005). Likewise, wine tourism businesses often brand their wine based on their respective region because each wine region signifies a distinct type and quality of wine. With the emergence of new cold-climate wine regions, branding and marketing based on region or origin has become a significant concern for wine tourism operators.

Wine regions in the United States (U.S.) are typically classified by state, county, and/or by a viticulture area. U.S. wine regions are often, but not always, classified by their American Viticulture Area (AVA), which typically aligns with their state and county (Johnson & Bruwer, 2007). Previous research suggests that region of origin or AVAs are well-known signals of quality that can command higher price points (Lockshin, et al., 2006). To be able to assign a wine a particular AVA, there are requirements that wine producers must meet. For instance, depending on the specific AVA in the U.S., anywhere from 75% to 100% of the grapes used to produce a wine seeking AVA classification must have been derived from grapes grown within the boundaries established for that AVA (TTB, 2017). Meeting this can be particularly challenging for wine producers in cold-hardy regions due to potential agricultural challenges (e.g., crop loss due to drought, disease, pests/insects, or climate disturbances).

Yet, the ability for cold-hardy wine tourism operators to brand their wine using an AVA, their state name, or any other regional name, may help provide a signal of quality to wine tourists

that are unfamiliar with cold-hardy wine, as well as bolster awareness of their wine region. Additionally, using a region of origin branding strategy can help to establish a sense of place and authenticity that wine tourists are seeking with the places they are visiting (Bessiere, 1998; Urry, 1990, Murray & Kline, 2015). A place-based marketing strategy for small, emerging cold-hardy wineries can offer a competitive edge by allowing wineries the ability to differentiate their product from others based on geographic origin (i.e., their state or AVA).

Price

While previous research has shown that consumers consider price the most important factor when making a general purchase (Jenster & Jenster, 1993; Quester & Smart, 1998), Koewn and Casey (1995) found that specific to wine purchasing, price point was also the most significant factor influencing purchase decisions. This is common as price is a quality signal for consumers, especially consumers that are less knowledgeable about wine (Chrea, Melo, Evans, Forde, Delahunty, & Cox, 2011). Also, when additional discriminating factors or product information is not available to evaluate a product, consumers rely on price to discern quality as a way to reduce risk of making a bad purchase choice (Dodds, Monroe, & Grewal, 1991; Spawton, 1991). As more information becomes available to discern product quality, it is expected price would hold less significance and other factors such as brand name or packaging could prove more or equally significant as quality indicators (Zeithaml, 1988).

Having examined the literature on how wine name, award designation, state designation, and price impacts consumers' preferences for and consumption of wine, it is important to explore whether these attributes have similar impacts specific to wine tourists in cold-climate wine regions. Understanding wine tourists' preferences will provide winery operators the ability to develop informed marketing and promotional strategies in the tasting room.

Methods & Materials

Selection of Attributes and Response Levels

Based on the review of literature, there is a substantial list of wine attributes that could be selected for this study. Yet, because this research is specifically focused on cold-climate wine regions and cold-hardy wines, informal interviews with six winery owners producing cold-hardy wine were conducted to help identify wine attributes and their appropriate response levels. Based on these interviews and the above literature review, four attributes were selected: wine name, award designation, state designation, and price.

The wine name attribute used in this SPCM study consists of two levels. The wine name attribute will represent either an artistic wine name (i.e., Soaring Red) or a varietal wine name (i.e., Marquette). The name Soaring Red was selected after a search demonstrated 'soaring' was an adjective used for wine, but the full name 'soaring red' was not identified as an existing wine. The name Marquette was selected for the varietal name because Marquette grapes are the most widely cultivated red grape of cold-hardy red cultivars and are predicted to double in cultivation over the next two years (Tuck & Gartner, 2014).

The award designation in this study focuses on the impact of the presence of an award designation on tasting room visitors' preferences. The aim being to discern the extent an award designation, or lack of, influences tasting room visitors' utility for a given wine. The award designation has two levels, either having a statement that the wine is a "Winner of the Gold Medal at the Tasters Guild International Wine Competition" or no statement referencing an award designation. Identifying wine tourists' preference for wine possessing an award will provide winery operators information to make an informed decision when weighing the benefits and costs of entering a wine exhibition.

Since previous research has identified region of origin as a significant factor influencing consumers' purchase decision (Batt & Dean, 2000), and its influence on their associated value for a given wine in general purchase contexts (Jarvis, Rungie, & Lockshin, 2007; Mueller et al., 2010), a state designation signifying region of origin was selected as an attribute in this study. The state designation attribute has two levels, either having a statement that "All grapes grown in Wisconsin [Minnesota]" or no statement referencing a state designation.

Lastly, price is used as an attribute in the choice sets as it allows for the estimation of marginal utility values (i.e. monetary value calculated as implicit price), thereby providing measurement of the level of importance of the other attributes (Boxall, Adamowicz, Swait, Williams, & Louviere, 1996; Mueller et al., 2010). After examining the price points of cold-hardy wines at twenty independent wineries in the study area (i.e., Minnesota and Wisconsin), the following four price levels were selected for this study: $10.99, $13.99, $16.99, and $19.99. The attributes and their levels are presented in Table 3.1.

Table 3.1 Attributes and levels used in study

Attribute	**Levels**
Wine Name	Artistic wine name Varietal wine name
Award Designation	No award designation Wine won award
State Designation	No state designation Grapes grown within State
Price	$10.99 $13.99 $16.99 $19.99

Experimental Design

An efficient fractional factorial design was created consisting of 28 paired comparisons (i.e., choice sets) blocked into seven different survey versions, each having four choice set questions for respondents to answer. Therefore, seven different surveys were created, identical except for each having a randomly assigned block of 4 stated choice questions. A blocking design was used to reduce respondent burden (Bennett & Adamowicz, 2001). An efficient fractional factorial design was chosen because they have been shown to outperform orthogonal designs by producing more reliable parameter estimates with small sample sizes as long as prior parameter estimates exist to develop the efficient design (Bliemer & Rose, 2011; Rose & Bliemer, 2009). Orthogonality means attributes in the choice sets are uncorrelated with each other (Wonnocott & Wonnocott, 1990). Therefore, choice sets using an orthogonal design were created using Ngene software and used in a pilot study (n=47) to establish parameter estimates. The parameter estimates generated from the pilot study were then used to develop the efficient fractional factorial design using Ngene stated choice experimental software. See Figure 3.1 for an example of a representative choice set.

Choice sets depicted two wine options with each consisting of a combination of attributes, as well as a "Neither" option if the respondent chose not to purchase either of the wines presented. Including a neither or non-choice option best simulates a real choice context into the experimental design (Adamowicz et al., 1998; Pearmain, 1991). Since this study is focused on the context of a winery tasting room, the question prompt for the choice set questions on the survey were specifically tailored to this context stating, "For the next four questions, imagine you're at a tasting room and you're choosing a wine to purchase. Based on the descriptions below, which would you prefer (Wine A, Wine B, or Neither)?" A specific prompt

simulating the study context is important to achieving as much realism as possible since the purchase context has been shown to influence consumers' willingness to pay (Lusk & Fox, 2003; Thaler, 2008).

Additionally, two generic statements often accompanying wine descriptions were included in the attribute combinations for every wine choice. These statements establish that the wine is "A medium bodied red table wine" and that one can "Drink now, or with careful cellaring, enjoy in 5 to 6 years." These statements accurately describe Marquette wine and are commonly included in wine descriptions for this cold-hardy varietal.

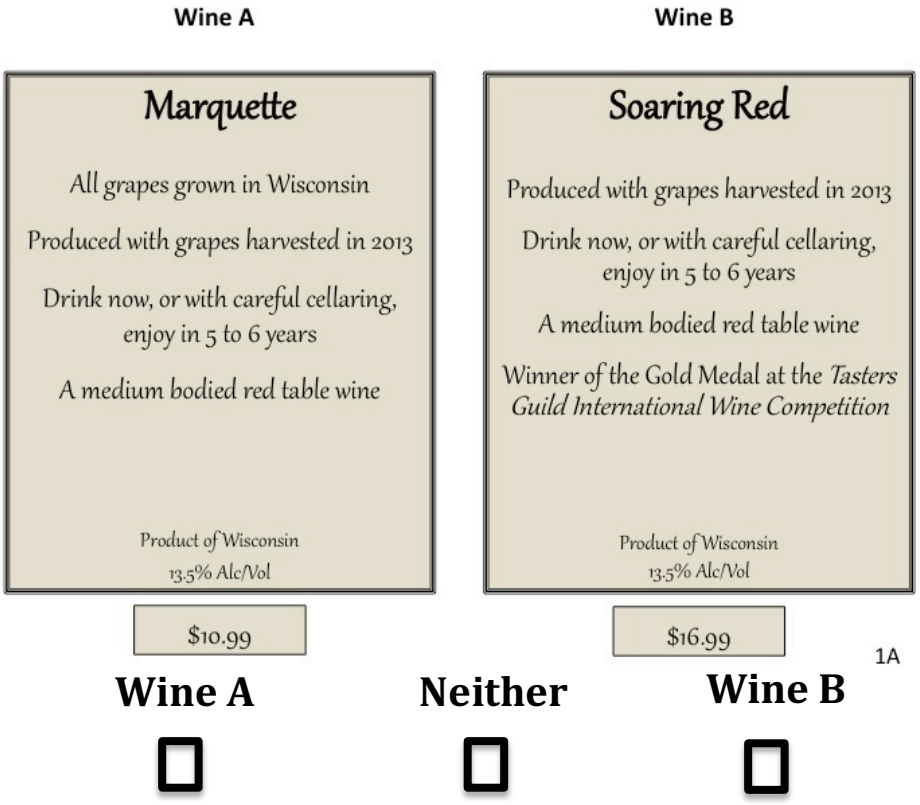

Figure 3.1 Choice set example

Survey

An online post-visit survey was used for this SPCM study. The survey was tested for readability and length in a survey pilot test with graduate students and faculty experts. The order for the 28 different choice sets was randomized across respondents for balance using Qualtrics survey software. General wine consumption behavior, purchasing behavior, wine tourism behavior, wine involvement, and socio-demographic data were also collected.

Tasting room visitors were intercepted at seventeen Wisconsin and five Minnesota wineries and invited to participate in a post-visit online survey. The Wisconsin and Minnesota wineries were selected based on winery size, geographical location, and willingness to participate. The five participating wineries located in Minnesota were selected as they are geographically located just across the Mississippi River from Wisconsin, with several wineries sharing an AVA designation (e.g., The Upper Mississippi River Valley AVA includes wineries located in NW Illinois, NE Iowa, SE Minnesota, and SW Wisconsin). The survey was distributed via email within a week after their visit, followed up with a reminder email and survey link (Dillman, 2000). These two states were chosen because they have a rapidly growing wine industry, featuring cold-hardy wines such as Marquette wine, at small vineyards and tasting rooms. Data collection took place between late August and October 2015, with a total of 611 surveys distributed to winery visitors during the data collection period.

Data Analysis

The stated preference data were analyzed using Stata/SE version 14.1. to estimate utility differences among attributes using logit methods. The levels of attributes were coded using effects coding (Lawson & Manning, 2002). Effects coding is advantageous as it provides the ordinal utility or disutility of each respective level of the attribute, depicted by the coefficients on

the indicator variables (Lawson & Manning, 2002; Louviere et al., 2000). Effects coding requires that one level of each variable be designated as the baseline variable to prevent the model from being over identified (Louviere et al., 2000). For this study, the first level of each attribute was selected as the excluded level (e.g., -1 for no award designation). Additional discussion of the benefit of using effects coding versus dummy coding is discussed in Adamowicz, Louviere, and Williams (1994), Lawson and Manning (2002), and Louviere, Hensher, and Swait (2000).

The stated preference choice questions were analyzed using logistic regression analysis to estimate the utility differences for wine attributes and their respective levels (Lawson & Manning, 2002; Pearmain, 1991). Implicit prices (i.e., willingness-to-pay) for single attributes were calculated by dividing the parameter estimate for each attribute by the parameter estimate of the price term (Hanley, Mourato, & Wright, 2001; Oh et al., 2005). The results of the main effects of SPCM experiment are presented in Table 3, as well as the standard errors, Z values, P values, and implicit price calculations for each attribute. Lastly, to address potential issues of collinearity among predictors, a correlation matrix and variance inflation factors (VIF) were assessed for predictors and are reported in Table 3.

Results

The response rate for the SPCM survey was 55.5%, resulting in a total of 338 completed surveys and 1,352 completed choice set items. From Wisconsin, 306 surveys were returned and from Minnesota 32. After data cleaning, 329 surveys (1,316 choice set items) were aggregated for analysis. Nine surveys were discarded due to incomplete responses for the block of stated choice questions.

Table 3.2 summarizes the socio-demographics of the study participants. Results show 78% of participants were female and 65% of participants were from the state of Wisconsin,

94.7% were Caucasian, 61% had a 4-year college degree or higher and 52% had a household income above the region's median. With the exception of gender, this demographic profile is in line with demographic results in a wine tourism study conducted in Michigan (Holecek & McCole, 2014). It is common for wine tourists to visit wineries in groups of two or more, with most groups containing a member of both genders (Bruwer & Thach, 2013) and larger travel parties consisting mostly of women (Napa Valley Visitor Profile, 2016). In this study, travel parties were often intercepted together in the tasting room, and because it is common to have more female tasting room visitors, having more female respondents was expected. Also, previous agritourism research in Wisconsin has shown that female agritourists such as wine tourists, are more likely to respond to surveys than male tourists (Brown & Hershey, 2012), suggesting a higher response from females is not uncommon for the region.

Table 3.2 Participants' socio-demographic characteristics

Variable	**Categories**	**Values in %**
Gender	Female	78
	Male	22
Education	High school	11.4
	Some college	14.8
	College degree	39.4
	Graduate degree	22.2
	Other	12.2
Household Income	Less than $50,000	21.1
	$50-70,000	26
	$70,000+	52.9
Ethnicity	American Indian	.3
	Caucasian	94.7
	Hispanic, Latino, Spanish origin	3.1
	Black, African American	1.6
	Chinese	.3
State of Residence	Wisconsin	65
	Illinois	12
	Minnesota	9
	Other	14

Only 26% of participants indicated they were “knowledgeable” or “very knowledgeable” about wine in general. Respondents were largely unfamiliar with Marquette wines with 50% indicating they had never heard of any of these wines. Just over 60% of respondents consume wine at home at least once a week and 31% purchased wine from a winery for home consumption. During their winery visit, 92% of respondents purchased wine during their visit and paid an average of $15.53 per bottle of wine purchased.

Table 3.3 reflects the correlation matrix results, illustrating only slight potential correlation for wine name and price, award designation and price, and state designation and price. Yet, this is an expected positive correlation. For example, it is expected that the presence of an award designation would increase the price point (i.e., value) of a given wine. VIFs were also computed and indicates how much of the variance of the coefficient estimate is being inflated due to multicollinearity. Results in Table 3.3 reflect that multicollinearity is not an issue among predictors with all values well below the threshold of 10.

Table 3.3 Correlation matrix

Attribute	Wine name	Award designation	State designation	VIF
Award designation	0.0888			1.19
State designation	0.1480	0.1429		1.10
Price	0.3929	0.3890	0.3007	1.47

The overall logit model is significant at the .05 level according to the Model chi-square statistic ($p < 0.000$). All coefficients have the expected signs and the magnitude of the significant coefficients indicates the relative importance of the corresponding attribute level to the respondents’ willingness to pay (i.e., implicit price). Therefore, although wine name had a weaker association, the positive coefficient for varietal name suggests respondents are more

likely to choose a wine named Marquette (i.e., the varietal name) versus an artistic name such as Soaring Red. Coefficients for award designation and state designation, as well as the price coefficient are statistically significant at the $p < 0.05$ level. See Table 3.4 for logit results.

Table 3.4 Coefficient estimates for wine attributes

Attribute	**Coefficient**	**Standard error**	**Z - value**	**P value**	**Implicit price**
Wine name:					
Artistic	-0.0632**	—		—	-0.84
Varietal	0.0632	0.039	1.59	0.112	0.84
Award designation:					
No award	-0.2996**	—		—	-3.99
Award	0.2996*	0.040	7.40	0.001	3.99
State designation:					
No state	-0.2625**	—		—	-3.48
State	0.2625*	0.038	6.79	0.001	3.48
Price:	-0.0755*	0.005	-12.95	0.001	

Notes: Significance at *0.05 level **The coefficients for the excluded level of each corresponding attribute were not estimated by the model. They are equal to the negative sum of the coefficient on indicator variables for each corresponding attribute (Lawson & Manning, 2002).

Additionally, respondents place slightly more importance on the presence of an award than they do on state designation when making their wine choice. The negative sign of the price coefficient reflects that higher priced wines were less preferred. Nevertheless, computing willingness-to-pay (i.e., the coefficient of attribute divided by the price coefficient [Hanley et al., 2001; Oh et al., 2005]) suggests respondents are likely to pay $3.99 more for a wine possessing an award designation and $3.48 more for a wine possessing a state designation despite their preference for lower priced wine. See Figure 3.2 for a graph of respondents' utility results.

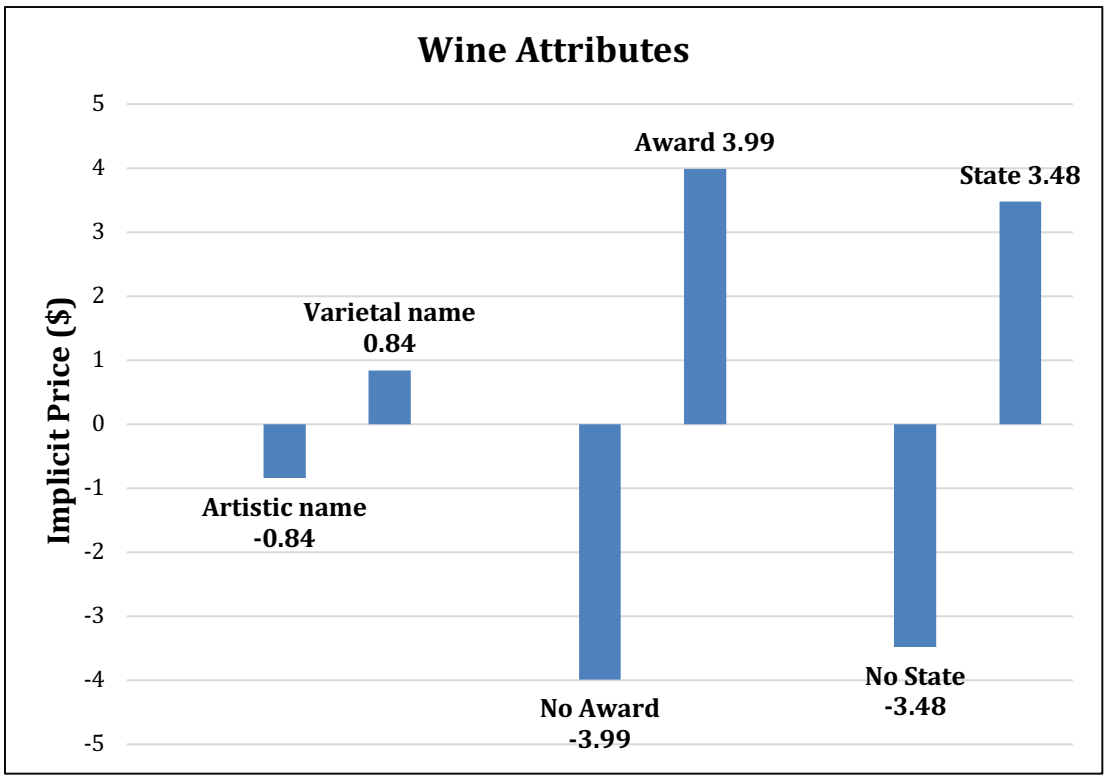

Figure 3.2 Respondents' utility for wine attributes

The use of a mixed conditional logit model was explored, but not reported in Table 3.4. Identification of potential interaction effects for individual specific characteristics (e.g., gender, race) and the attributes associated with a respective wine choice on the probability of respondents' willingness to pay, did not contribute significant results.

Discussion

In this study, SPCM was used to identify wine tourists' preferences for specific wine attributes in relation to their willingness to pay for a given bottle of cold-hardy wine. The results presented in this article have potential implications for individual cold-hardy wine producers, as well as the larger cold-hardy wine industry. This research was conducted to generate information that can inform the marketing decisions made by cold-hardy producers. The results can help build a more sustainable industry by helping wineries increase tasting room sales, and the overall success of their business.

Previous research discussed in the literature review demonstrated that wine name (Chaney, 2000), award designation (Orth & Krska, 2002), geographic designation (i.e., AVA or state where grapes/wine was produced) (Batt & Dean, 2000), and price point (Koewn and Casey, 1995) all influence consumers' preferences and purchasing behavior for a given wine. Exploring the impact of these attributes on wine tourists' preference and willingness to pay in the context of a cold-hardy winery tasting room revealed that wine tourists have a preference for wines that possess a state and award designation, both of which increased their willingness to pay (WTP) by almost four dollars.

The presence of an award positively influencing respondents' WTP and preference for a wine is in line with previous study findings (Lockshin et al., 2006; Orth & Krska, 2002). The difference being that previous studies focused on general consumers in contexts such as grocery stores, convenience/liquor stores, or big box stores (Lockshin et al., 2006; Orth & Krska, 2002), whereas this study establishes that awards are influential among wine tourist's specific to the context of a winery tasting room. This is an important finding for small winery operators whose main point of sale for their cold-hardy wines is the tasting room. Communicating to tasting room visitors that a wine has won an award is likely to increase their WTP (an increase of $3.99 in this study) and command a higher price point for the given wine since an award can oftentimes serve as a quality indicator (Orth & Krska, 2002).

Yet, because previous research found that there was a slightly higher willingness to pay for wines possessing a gold medal rather than a silver medal and for international awards rather than national or regional level awards in the context of a retail setting (Orth & Krska, 2002), winery operators should be highly selective when choosing wine competitions. Meaning, entering competitions where the probability of winning a gold medal in a domestic competition

may prove more beneficial for emerging wineries than entering a highly prestigious and competitive international competition. This is especially important since the cost of entering a competition can be significant. Additionally, respondents reported not being exceptionally knowledgeable about wine and therefore may not be familiar with the different wine competitions, or where a particular award was won (i.e., domestic vs. international). Previous research has also shown that wine tourists in emerging cold-hardy wine regions are more interested in visiting winery tasting rooms for social and leisure reasons (McCole & Holecek, 2013) and may only look for an award as a quality assurance signal when making a purchase choice.

In addition to an award positively increasing respondents' WTP, a state designation signaling the product was locally produced also increased respondents' WTP by $3.48. Previous research has established that region of origin or AVAs provide quality signals and can command a higher price point for wines in a retail setting (Lockshin et al., 2006), but not specific to the context of the tasting room. This study establishes that this also holds true for the tasting room context in cold-climate wine regions such as Minnesota and Wisconsin. Yet, region of origin or AVA typically serves as a quality signal for wine regions that are more well-known for producing quality wines such as Napa or Sonoma, California (Lockshin et al., 2006). Therefore, for cold-climate wine regions not typically recognized for being wine producing states, such as Wisconsin and Minnesota, it is more likely that a preference for localism is driving the increase in WTP rather than the state designation serving as quality signal. Also, knowing the presence of a geographical designation positively influenced tasting room visitors' WTP suggests that winery operators should focus on locality when educating tasting room visitors.

The state designation in this study specified that "All grapes [were] grown in Wisconsin [Minnesota]" to emphasize the wine grapes for the respective wine were grown locally. Research has shown that consumers will pay more for products that are produced locally (Bosworth, Bailey, & Curtis, 2015; Lang, Stanton, & Qu, 2014), and that wine tourists specifically place value on the social, environmental, and economic benefits associated with locally based development and community initiatives that wineries in rural areas can provide (Alonso & O'Neill, 2009). These include, but are not limited to job development, rural tourism development, infrastructure development, as well as other local and community development initiatives that can benefit the community in which the wineries reside. These benefits can also help contribute to the authenticity and sense of place that wine tourists are seeking during their visit(s) (Bessiere, 1998; Urry, 1990; Murray & Kline, 2015). Therefore, not only does a geographic origin (i.e., state designation or AVA) offer benefits in respect to increasing wine tourists' WTP, building awareness of the emerging wine region and offering a way to differentiate from other regions and their wines, but it also provides potential benefits for the development of a more authentic and place-based tourism sector within the communities in which the wineries inhabit.

Lastly, although the association was weaker for the name of the wine, this does provide important information for winery operators. As the cold-hardy wine industry grows, industry stakeholders are looking for ways to build awareness and educate wine tourists about cold-hardy grapes and wines. Deciding to name their wines after the cold-hardy grapes from which they are produced can help build awareness of these new grapes and wines. Yet, some winery operators are hesitant to name a wine with an unfamiliar varietal name, concerned it will not appeal to tasting room visitors who may be more willing to purchase and/or pay more for varietals with

which they are familiar such as a Merlot or Chardonnay. Although the artistic name used in this study, Soaring Red, did not significantly impact respondents' WTP, this result does not mean that an artistic wine name would never increase wine tourists' WTP, but that the particular name in this study did not. Many wines are given humorous or catchy names, or even names with a bit of shock appeal in order to grab the consumers attention. A few examples of successful brands that have taken this approach include a French red wine named *Fat Bastard*, Michigan winery, L. Mawby's sparkling wine named *Sex*, (a play on the German word for sparkling wine: sect) and the brand name *Mommy's Time Out*.

Nevertheless, since respondents did not have a strong preference for either the varietal or artistic wine name, it signals to winery operators that they should select a wine name that works to accomplish their marketing goals. If individual wineries are attempting to establish their brand, then choosing an artistic or proprietary name associated with their winery may be the most strategic choice to build awareness of their brand. While at the industry level wineries may collectively choose to use the cultivar name (e.g., Marquette) when naming their varietals produced with cold-hardy grapes.

It is common for the wine industry as a whole to collaborate on industry level marketing and business strategies in order to advance the industry and ultimately create a more sustainable business environment for all wine producers (Chaney, 2000; Wargenau & Che, 2006). As the industry moves forward, knowing the wine name does not significantly impact wine tourists' willingness to pay for a given wine provides some flexibility as to how individual wineries and the industry may choose to build awareness and market cold-hardy grapes and wines. Further discussion among cold-hardy wine industry stakeholders in Wisconsin and Minnesota is

suggested in order to decide as an industry how to best implement this particular finding and achieve their marketing goals for their respective region.

Limitations and Future Research

Because this research was specifically focused on tasting room visitors in the context of winery tasting rooms in Wisconsin and Minnesota, caution is suggested in applying results to other wine regions or contexts. Further research is suggested in additional cold-climate wine regions in order to generalize findings from the current study. Additionally, data collection for this study took place in the late summer and fall. Meaning, seasonality cannot be accounted for and further research is needed in order to discern if results would differ across seasons.

Also, the method used for this study allowed the researchers to estimate wine tourists' relative utility for certain wine attributes, but it does not allow for the exact estimates to be calculated since the SPCM method is hypothetical. Yet, the identified preferences in this study suggests which attributes (and their respective levels) are more preferred and estimates their associated utility for them, setting the stage for future research to examine these preferred attributes using revealed (actual) choice set data or a non-hypothetical method. Additionally, considering the importance of awards to respondents, an area of future research specific to award designation (i.e., quality signals) would be to identify wine tourists' level of knowledge or awareness of the different wine exhibitions and awards, and the extent to which this knowledge and awareness influences their preferences. A study of such nature would allow for more detailed profiling of wine tourists and a better understanding of wine tourists demand for information about wine in the context of a tasting room experience.

Lastly, further analysis of this data set offers opportunity to explore and identify different segments of wine tourists and reveal how different combinations of attributes may influence

consumer choice and value for a given wine. Identifying and understanding what attributes are important for specific groups or types of wine tourists can help wine tourism operators better market their products to specific types of wine tourists.

Conclusion

This study contributes to a growing body of wine tourism literature by conducting research specific to the emerging cold-climate wine regions where limited research exists focused on the tasting room context. Although an emerging industry, the cold-hardy wine industry is bolstering wine tourism in new areas and results from this study provide winery operators with information on what attribute information wine tourists prefer and how this impacted their WTP. This information is important to winery operators and tasting room managers as they consider the ways in which they promote their wines and educate visitors.

Based on findings presented from this study, it is suggested that winery operators could command a higher price point for award winning cold-hardy wines and for wines that have a geographic designation. Also, although wine name did not significantly influence respondents' WTP this suggests that the industry can collectively move forward with educating and raising awareness about cold-hardy wines and cold-climate wine regions using cultivar names for their wines, or at the individual winery level using artistic/proprietary names to build their respective brand, without negatively impacting wine tourists' WTP.

Lastly, this information was focused on wine tourists' WTP in the context of the tasting room, so results could then be applied through multiple modes of communication within the tasting room. Tasting room managers and winery operators can communicate preferred attributes in multiple ways in order to educate, communicate value and increase tasting room visitors' WTP. For example, because there is limited space on a label, tasting room managers can

communicate to visitors that their wines have won awards and/or is produced within the state via tasting room notes, signage, displays, and/or verbal communication. For instance, many wineries portray value and prestige just by displaying their awards and medals within the tasting room for visitors to see as they taste wine and make purchases.

Nevertheless, whichever approach a manager chooses to communicate value and quality in the tasting room, caution should also be taken to not overload visitors with information. Previous research conducted in 2012 at a Michigan winery (Holecek & McCole, 2014) revealed that "purchasing wine" was third among respondents' purpose for visiting a winery, preceded by "having a relaxing day out" and "to socialize with friends and family." However, although purchasing wine may not be the primary reason for visiting the winery, most tasting room visitors do in fact, end up purchasing wine (McCole, Holecek, Lee, & Eustice, 2018), and *because* it may not be their primary purpose for visiting a winery, it is even more important to increase visitors' value of the wine through marketing and promotional tactics. Strategic promotional tactics can educate tasting room visitors, increase their value of the wine, and enhance the tasting room experience.

CHAPTER 4: THE EFFECT OF INVOLVEMENT ON WINE TASTING ROOM VISITORS' PREFERENCES FOR COLD-HARDY WINE ATTRIBUTES

Introduction

Understanding wine tourists' willingness to pay (WTP) and preferences for wine is important for wineries establishing themselves in emerging wine regions. But for new wineries producing products unfamiliar to their visitors, such as cold-hardy wine, it is even more important to identify and understand their consumers' needs, desires, and preferences. Cold-hardy wines are produced from hybrid grape cultivars that were bred to ripen in a shorter growing season and withstand cold weather, making them conducive to cold-climate regions. The development of cold-hardy grapes and wines has set the stage for vineyard and winery development in areas that previously were not suitable for grape and wine production. Development has allowed for the growth wine tourism to expand into new regions across the northern United States (U.S.). Wine tourism is "…a form of special-interest travel based on the desire to visit wine-producing regions or in which travelers are induced to visit wine-producing regions and wineries in particular while traveling for other reasons" (Brown & Getz, 2005, p.226).

Wine tourism is a subset of agritourism (Wicks & Merrett, 2003; Wolf, 2014). Agritourism involves "rural enterprises which incorporate both a working farm environment and a commercial tourism component" (Weaver and Fennell, 1997, p. 357) and is a subset of rural tourism (Phillip et al., 2010). Many agritourism businesses provide benefits to the rural communities in which they reside, with benefits frequently reaching nearby communities as well. For example, Barbieri (2013) found that from a sustainability standpoint, farms that diversified to include agritourism operations created more economical, sociocultural, and environmental benefits than non-diversified farms. Additionally, the infrastructure and economy that is typically

developed to support tourism can contribute to agricultural producers' success by increasing direct demand by visitors at the agritourism destination, as well as indirect demand for export of the areas agrarian products (Bowen, Cox, & Fox, 1991).

The evolution of wine tourism in cold-climate regions has numerous benefits to the agricultural producers, its host community, and surrounding agriculture communities. Wine tourism benefits agrarian producers through economic gains (e.g., tourism revenue backing agricultural production), increased pride and identity (e.g., through cultural preservation), increasing land value for surrounding property owners, preservation of undeveloped rural and agrarian spaces, and by providing an influx of visitors and revenue through events and festivals (Hackett, 1998; Telfer, 2001). For these benefits to develop and mature for the greater community, wine tourism operators need to establish a thriving market for their product(s). Creating a market involves generating strategic marketing efforts that espouse an understanding of, and meet the needs of, wine tourists. For emerging wine regions, such as cold-climate wine regions in Minnesota and Wisconsin, it is critical for wine tourism operators to understand wine tourists' needs and value for their products(s) to develop informed marketing and promotion plans, including appropriate price points for their cold-hardy wines.

Existing research on the topic of wine consumer preferences primarily focuses on contexts such as grocery stores, liquor stores, or convenience stores (see Keown & Casey, 1995; Mueller, Lockshin, Saltman, & Blandford, 2010; Lockshin Rasmussen, & Cleary, 2000; Orth & Krska, 2002). There is a lack of research specific to the context of the winery tasting room. Additionally, little research on emerging cold-climate wine tourism regions exists and what does exist focuses mainly on viticulture, winemaking, economic contributions, and consumer interest in wine tourism as a subset of agritourism pursuits (Brown & Hershey, 2012; Tuck & Gartner,

2014). It is within the context of winery tasting rooms in cold-climate wine regions that the research presented in this paper is focused.

Specifically, this research concentrates on the northern U.S. states of Wisconsin and Minnesota, which have established rapidly growing cold-climate wine regions due to the development and proliferation of cold-hardy grapes and wines. At the time of this writing, the state of Wisconsin boasts about 118 wineries, while Minnesota is home to about 49 wineries. While these wineries have small vineyards, research suggests continued growth and expansion of the cold-hardy grape and wine industry (Tuck & Gartner, 2014). To enable the successful expansion of the industry, it is critical for wine tourism operators to understand their visitors (i.e., wine tourists).

In consumer research, a prominent marketing response to better understanding consumers is through segmentation research. Consumers are unique in their preferences for products and services, but marketing professionals can address this heterogeneity by identifying and segmenting consumers into distinct groups through an exploration of their demographic, psychographic, and behavioral characteristics (Kotler & Keller, 2006). Market segmentation provides several different ways to group consumers with the goal of creating target markets (i.e., groups of consumers with distinct needs, behaviors, preferences, etc.). Creating target markets allows marketers to develop separate and specific marketing strategies or mixes for each consumer segment they are trying to reach (Beatty, Kahle, & Homer, 1988, p.190).

One way of segmenting consumers based on both psychographics and behavioral characteristics is through a construct known as consumer involvement (Cohen, 1983). The notion of involvement is commonly applied in marketing, advertising, tourism and leisure research. Since tourists' level of wine involvement influences their wine consumption and purchasing

behavior (Bruwer, Burrows, Chaumont, Li, & Saliba, 2014), evaluating wine tourists' level of wine involvement can help discern their behavior specific to tasting room purchases and provide a basis for segmentation.

One method to better understand consumer preferences is through stated preference choice modeling (SPCM) experiments. SPCM is a common method used in tourism research to identify tourists' preference for a given product or experience (Kelley, Rensburg, & Jeserich, 2016; Oh, Ditton, Genter, & Riechers, 2005; Piriyapada & Wang, 2015). SPCM uses simulated choice behavior by asking consumers to make trade-offs while choosing among products or experiences where each has a specific set of characteristics, known in the SPCM methodology as "attributes," and each choice represents the individual's utility for a given product with its mix of attributes (Louviere, Hensher, & Swait, 2000; Pearmain, 1991). Using SPCM to elicit wine tourists' preferences (i.e., utility) for specific wine attributes of a given cold-hardy wine can provide wine tourism operators with crucial information about how visitors are liable to respond to marketing and pricing strategies (Lawson & Manning, 2002).

The purpose of this study is to explore wine tourists' behavior and their associated preferences toward cold-hardy wines in the context of tasting rooms in the cold-climate wine regions of Wisconsin and Minnesota. The primary objectives of this study are to (1) segment wine tourists based on their wine involvement, (2) to examine how different types of involvement influence their value for cold-hardy wine attributes using SPCM, and lastly, (3) to provide recommendations to winery operators that help increase tasting room sales.

Literature Review

Marketing focuses on "…identifying and meeting human and social needs" (Kotler & Keller, 2006, p. 5), which seems simple enough until the realization dawns that no one enterprise

can meet all the needs of every consumer. Wine marketing includes a broad array of topics such as branding, consumer behavior towards wine, promotion, pricing, wine tourism, labeling and packaging, exhibition awards and competitions, and supply chain management (Lockshin & Hall, 2003). All of these marketing topics aim to inform winery operators marketing strategies. But for improved marketing strategies to be successful, winery operators need to identify and understand their visitors before developing and implementing a plan. A general approach to achieve this is by segmenting visitors into specific groups and then developing marketing strategies specific to each respective group (Mooi & Sarstedt, 2011).

There have been numerous studies that segment wine consumers based on wine consumption habits, wine knowledge, and wine-related lifestyle (for example see Bruwer & Li, 2007; Famularo, Bruwer, & Li, 2010; Marzo-Navarro & Pedraja-Iglesias, 2010). But another critical factor that is used to segment consumers and help predict their consumption and purchasing behaviors is involvement.

Involvement

Involvement is defined in the literature as "A person's perceived relevance of the object based on inherent needs, values, and interests" (Zaichkowsky, 1985, p.342). Involvement is associated with multiple dimensions that are considered antecedents to consumer's involvement (Laurent & Kapferer, 1985). Previous studies have measured singular antecedents such as emotional and enduring involvement (Houston & Rothschild, 1978), situational involvement (Mittal & Lee, 1989), felt involvement (Celsi & Olson, 1988), and hedonic involvement (McQuarrie & Munson, 1986). Results of such studies typically provide a high-low measurement of consumer involvement.

A commonly used scale applied across disciplines is Laurent and Kapferer's (1985) consumer involvement profile (CIP). The development of this scale gave researchers the ability to examine multiple dimensions of involvement, identifying not just consumers overall level of involvement (e.g., highly-involved or low-involvement), but different types of involvement and their respective level (e.g., high, moderate, low). Several studies profiled wine consumers by measuring different involvement dimensions using modified scales and each investigation resulted in unique consumer segments (Bruwer et al., 2014; Brown, Havitz, & Getz, 2007; Hollebeek, Jaeger, Brodie, & Balemi, 2007; Lockshin, Spawton, & Macintosh, 1997). Modification of scales such as the CIP scale has provided the tourism field with a flexible tool for examining tourist behavior and creating more nuanced tourist profiles.

Specific to wine research, Lockshin et al. (1997) found that different types of involvement steer differing responses to marketing efforts. By using three different types of involvement (i.e., purchasing, product, and brand involvement), Lockshin et al. (1997) were able to extend the high-low binary consumer segmentation to five different groups of wine consumer segments in their study on wine retail shopping behavior. Specifically, results suggested that higher involved consumers utilized more information (i.e., attributes) when making purchasing decisions and tended to pay more for their wine. Lockshin, Jarvis, d'Hauteville, and Perrouty's (2006) later research on involvement also found that the function of involvement in wine choice does affect purchasing behavior. Findings reflect that while high involvement consumers still buy wine at higher price points than low-involved consumers, they tend to concentrate on the region and brand attributes in conjunction with the price to make purchase decisions.

Product involvement relates to the interest, excitement, and effort a consumer has for a particular product category and impacts product choice behavior (Goldsmith & Emmert, 1991;

Laurent & Kapferer, 1985; Lockshin et al., 1997). Product involvement can be enduring as it is representative of an individual's long-term interest in a product category (Lockshin, Quester, & Spawton, 2001). Consumers with high product involvement would spend more time evaluating their product choices than low-involved consumers. High product involvement wine consumers look for and use more product cues (i.e., attributes) when making purchasing decisions (Quester & Smart, 1998; Zaichkowsky, 1988).

Brand involvement can influence product decision involvement (i.e., acting as an antecedent to product involvement), which involves the act of making a casual effort versus a more thorough effort in choosing a product brand (Mittal & Lee, 1989; O'Cass, 2000). Brand involvement can also occur independently from product involvement (Lockshin et al., 1997). For example, a wine consumer may be highly involved with Pinot Noir wine as a product, but not concerned with selecting a specific brand of Pinot Noir, such as Rodney Strong (i.e., having low brand involvement). Such wine consumers may be more likely to respond to price-focused marketing or utilize wine clubs where the brand decision is made for them. For emerging wineries producing less recognized varietals of cold-hardy wines, it is essential to identify how important brand is to their tasting room visitors. Understanding their level of brand decision involvement will provide winery operators information about how to best implement marketing appeals in the tasting room (e.g., more emphasis on direct marketing materials versus focus on price appeals).

Purchasing involvement focuses on the actual purchase activity and is impacted by direct marketing concerning value and price appeals in the purchase context (Lockshin et al., 1997; Ohanian & Tashchian, 1992; Slama & Tashchian, 1985). A wine consumer with high purchasing involvement would spend more effort finding the best deal when making a wine purchase and

would be responsive to direct marketing such as tasting room notes made available at a tasting room. Research has also shown that consumers high in purchasing involvement tend to make direct purchases (Williams, 1988), but it is unclear if this association holds true for direct purchases from wineries in regions less known for wine production such as cold-hardy areas. Since small wineries depend on tasting room sales as a significant part of their revenue (Barber et al., 2008; Holecek, McCole, Lee, 2016), it is important to identify and understand what types of visitors are high in purchasing involvement. This will help winery staff know when to employ more direct marketing sales tactics in the tasting room.

Lastly, research has also found that consumers' level of involvement with wine can impact their evaluation of wine based on available quality cues (Charters & Pettigrew, 2006; Quester & Smart, 1996; Zaichkowsky, 1988). Since many consumers view wine attributes as quality cues (e.g., region of origin, price, brand name), it is important to understand wine tourists' attribute preferences in relation to price within their respective involvement segments.

Stated Preference Choice Modeling

Wine tourists with varying degrees of involvement respond in different ways to marketing tactics such as price appeals, product information (e.g., wine attributes), or label and packaging design. SPCM can be used to discern wine tourists attribute preferences for a given cold-hardy wine in relation to price and is a way to provide wine tourism operators with more robust profiles of wine tourists segmentations.

Attributes

There are numerous possible attribute combinations to include in a SPCM experiment to better understand wine tourists' preferences. Research exploring combinations of attributes such as price, region of origin, brand name, grape variety, regional branding, and presence of award,

all with varying attribute levels, have been investigated across retail wine contexts (Chrea et al., 2011; Gill & Sánchez, 1997; Hollebeek et al., 2007; Lockshin et al., 1997; Lockshin et al., 2006; Mueller et al., 2010; Rasmussen & Lockshin, 1999). The majority of this research took place in international wine producing regions such as Australia (Chrea et al., 2011; Lockshin et al., 1997; Rasmussen & Lockshin, 1999), Spanish regions (Gil & Sánchez, 1997), and New Zealand (Hollebeek et al., 2007). Because these studies are context specific, results cannot be generalized to other areas. Additionally, these studies focused on wine varietals that are known to most wine consumers (e.g., vinifera wines such as Cabernet Sauvignon, Sauvignon blanc), and therefore results may be different for less recognizable varietals produced in cold-hardy regions (e.g., non-vinifera wines such as Marquette, Frontenac gris, or Brianna).

Wine name was selected as an attribute because it is imperative for cold-hardy wine producers to understand how to brand new cold-hardy wines specific to their market. Although there is evidence that consumers are more apt to choose a wine based on its varietal name than its brand name (Chaney, 2000), cold-hardy wines are new wines that do not have the brand presence that established varietals and brands in well-known wine regions such as Sonoma, California possess. Therefore, two choice levels were selected, an artistic wine name and a varietal wine name. Among the cold-hardy wine grape cultivars, the wine grape Marquette was chosen as a varietal name because it is a relatively new grape (introduced in 2006) but has experienced wide adoption among growers and wine producers in cold-climate regions (Tuck & Gartner, 2014). The artistic name 'Soaring Red' was selected after a search revealed ‘soaring’ was a common adjective used for brand names for wine, but the full name ‘soaring red’ was not associated with an established wine or brand. Bruwer et al. (2014) posit that low-involved consumers place more emphasis on the brand name when making a purchase, yet other research suggests that wine

consumers are utilizing the varietal name more when making a wine purchase (Chaney, 2000). It is therefore expected that wine tourists' preferences for a wine name will vary between the different involvement segments identified in this study.

An award designation was also selected as an attribute because winery owners were interested to know if the cost and time involved in entering their cold-hardy wines into wine exhibition competitions is worth the potential benefit of an increased price point for an award-winning wine. Additionally, research findings support the presence of an award as a quality cue for consumers when making a wine purchase (Hauck, 1991; Orth & Krska, 2002), and also as an influence on consumers price sensitivity with higher ranking medals commanding higher price points (Orth & Krska, 2002). Lockshin et al. (2006) found that low-involved consumers were most impacted by an award, as compared to high-involved consumers who were more apt to focus on region, brand, and price when making a purchase selection. Therefore, the presence or absence of an award designation is included to determine its impact on tasting room visitors' preference for a given wine within their respective involvement segments.

Many geographic wine designations require a certain percentage of the grapes used in winemaking to be grown in the region to list the region in marketing materials (e.g., the wine label). Winemakers, therefore, have to decide whether it is worthwhile to meet regional designation requirements, which can be more expensive and require extra time to demonstrate compliance. Because of this, state designation was chosen as an attribute. Previous research has reflected that region of origin does influence wine choice in general purchase contexts (Batt & Dean, 2000), but it is unknown if it has a similar effect in smaller, emerging cold-climate wine regions. Also, consumers may place value on the state designation because in some cases,

consumers have been found to value locally made products and are willing to pay more for them (Bosworth, Bailey, & Curtis, 2015; Feldman & Hamm, 2015).

Research also suggests that high-involved wine consumers place more emphasis on the region of origin when making a wine selection (Hollebeek et al., 2007; Lockshin et al., 2001; Lockshin et al., 2006; Quester & Smart, 1998). Therefore, to identify wine tourists' preference for a region of origin (i.e., state designation), two levels were chosen. The first level consisting of no state designation and the second level stating that "grapes [were] grown within the state." Also, since wine tourists are seeking a sense of place and authenticity when visiting wineries (Bessiere, 1998; Urry, 1990, Murray & Kline, 2015), identifying a preference for a state designation among visitors can help direct branding strategy that reinforces a sense of place for wine tourists.

Lastly, like most products, price has been found to have a considerable influence on wine choice (Batt & Dean, 2000; Gill & Sánchez, 1997; Quester & Smart, 1998). When there is a lack of product information about a given wine, consumers look to the price as a signal of quality (Chrea et al., 2011). Based on visitors' levels of the different types of involvement, it is expected that various segments of wine tourists identified in this study would exhibit different behavior concerning price. For example, Hollebeek et al. (2007) found that consumers with high product involvement are typically willing to purchase higher priced wines. Additional studies support this finding (Lockshin et al., 2006; Rasmussen & Lockshin, 1999). In addition to exploring price in relation to segmented groups, the price attribute is also used in this study to estimate the marginal utility of the other SPCM attributes (Boxall, Adamowicz, Swait, Williams, & Louviere, 1996; Mueller et al., 2010). See Table 4.1 for the selected wine attributes and their respective levels.

Table 4.1 Attributes and levels used in study

Attribute	Levels
Wine Name	Artistic wine name Varietal wine name
Award Designation	No award designation Wine won award
State Designation	No state designation Grapes grown within State
Price	$10.99 $13.99 $16.99 $19.99

Research Question

Previous research suggests that high-involved consumers look for and review more product attributes when choosing a wine, and that they pay more for wine than low-involved consumers (Dodd & Gustafson, 1997; Hollebeek, Jaeger, Brodie, & Balemi, 2007; Lockshin et al., 1997; Lockshin & Spawton, 2001). Yet, involvement levels often vary for consumers in different wine regions and can result in conflicting preferences among wine consumers from different regions (e.g., Mitchell, Hall, & McIntosh, 2000; Lockshin et al., 2001; Lockshin et al., 1997; Quester & Smart, 1998). Therefore, the purpose of this study is to explore wine tourists' behavior and their associated preferences toward cold-hardy wines in the context of tasting rooms in the cold-climate wine regions of Wisconsin and Minnesota. Specifically, the following research question was crafted to address the purpose and objectives of this research: How does involvement (product, brand, and purchasing involvement) influence tasting room visitors preferences and utility for different cold-hardy wine product attributes?

Methods & Data Collection

This research concentrates on the northern U.S. states of Wisconsin and Minnesota. These two states were selected for this study because they feature wines made with cold-hardy wine grapes such as Frontenac, Frontenac Gris, Marquette, Brianna, La Crescent and others, at their small vineyards and tasting rooms. Specifically, 17 Wisconsin and 5 Minnesota wineries partnered with researchers to provide access to tasting room visitors. The wineries were chosen to provide a representative sample of winery size and geographical location. Winery visitors were intercepted and invited to participate in a post-visit online survey, sent via email within a week of their visit. Reminder emails were sent to those who had not yet responded in accordance with Dillman procedures (Dillman, 2000). Data collection took place between late August and October 2015 and was part of a broader set of studies focused on cold-hardy grapes and wines (see Holecek & McCole, 2014; Holecek, McCole, & Lee, 2016; Tuck & Gartner, 2014). A total of 611 surveys were distributed to winery visitors during the data collection period.

SPCM Design

The SPCM experiment is an efficient factorial design comprised of 28 paired choice sets blocked into seven survey versions (i.e., each survey had four choice set questions). Research has shown that blocking designs help to reduce the respondent burden (Bennett & Adamowicz, 2001). Ngene experimental software was used to create the choice sets. See Figure 4.1 to view a choice set example.

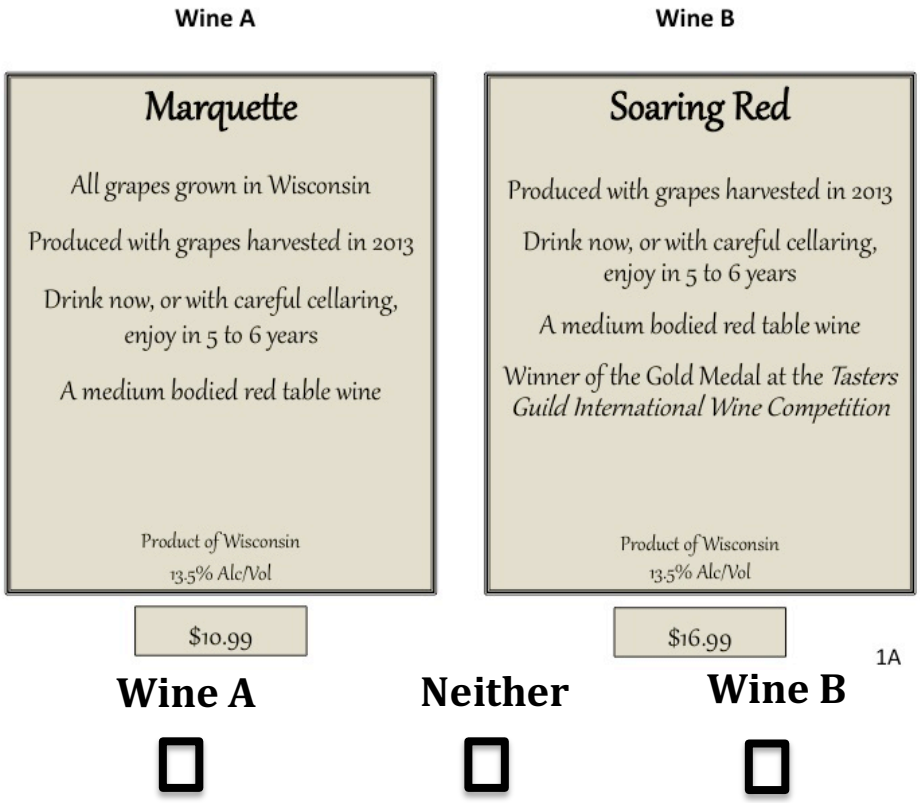

Figure 4.1 Choice set example

The choice sets show two different wine options to choose from, each having a different set of attributes and each question including an opt-out option (i.e., Neither). The opt-out option stating "Neither" was included to simulate a real choice context into the experimental design and allow the participant the option not to select (i.e., purchase) a wine (Adamowicz et al., 1998; Pearmain, 1991). Since purchase context has been shown to impact consumers' willingness to pay (Lusk & Fox, 2003; Thaler, 2008), the following instruction preceded the choice sets: "For the next four questions, imagine you're at a tasting room, and you're choosing a wine to purchase. Based on the descriptions below, which would you prefer (Wine A, Wine B, or Neither)?" Two additional statements commonly used for describing the cold-hardy wine Marquette are included in every wine choice attribute combination. "A medium-bodied red table wine" and "Drink now,

or with careful cellaring, enjoy in 5 to 6 years" are common descriptions used for Marquette wine throughout the region.

Qualtrics survey software was used to randomize the 28-different choice sets across respondents for balance. Purchasing behavior, wine tourism behavior, socio-demographic data, and general wine consumption behavior data were also collected.

Measurement

To measure product, brand, and purchasing involvement, scales based on Lockshin et al.'s (1997) study were adapted for this study. Lockshin et al.'s (1997) scales are based on Mittal and Lee's (1989) product and brand decision scales, and Slama and Tashchian's (1985) purchasing involvement scale. These scales were chosen over Bruwer et al.'s (2014) Wine Involvement Profile (WIP) scale due to their brevity, as well as their previous successful factor loadings and reliability. Although the Bruwer et al. (2014) WIP scale produced a Cronbach's alpha of 0.884, to the best of the authors' knowledge, it has only been used in exploratory fashion in a single context. Lockshin et al.'s (1997) involvement scales have been successfully applied in additional studies (Lockshin et al., 2006; Quester & Smart, 1998). Each of the different types of involvement was measured on a 5-point Likert type scale (Strongly disagree [1] – Strongly agree [5]). See APPENDIX C for adapted purchasing, product, and brand decision involvement scales.

Respondents' level of wine knowledge is measured by asking them a 4-point Likert-type scale question (Not knowledgeable [1] – Very knowledgeable [4]) measuring their self-rated level of knowledge. For wine purchases, respondents were asked the number of bottles of wine purchased at the winery, as well as the average amount spent for a bottle of wine. Additional questions asked respondents what their primary reason for visiting the winery, and their level of

home wine consumption. Lastly, sociodemographic characteristics such as household income, education, gender, and ethnicity were included.

Data Analysis

Descriptive analysis of the sample and confirmatory factor analysis (CFA) for the involvement scales was conducted. CFA was performed using Amos (SPSS 24) to evaluate the measurement model of Lockshin et al.'s (1997) scales. Factor scores were used in the cluster analysis to segment wine tourists based on their levels of product, brand, and purchasing involvement. Cluster analysis provides a method for grouping individuals that have similar characteristics, which will allow for systematic segmentation of wine tourists based.

Cluster analysis included factor scores from the involvement scales to avoid bias in the cluster solution, as well as to allow for more straightforward interpretation of results since factor scores are standardized (Lockshin et al., 1997; Singh, 1990; Mooi & Sarstedt, 2011). The evaluative field included the average dollar amount spent on a bottle of wine during the winery visit, respondent level of home wine consumption, wine knowledge, and socio-demographic characteristics. Because ratio and categorical variables are used in the cluster analysis, a two-step cluster analysis was conducted (Chiu, Fang, Chen, Wang, Jeris, 2001; Mooi & Sarstedt, 2011) using SPSS 24. To validate that the clusters provided segments that demonstrate differences between them in such a way that practical implications for management can be generated (Punji & Stewart, 1983), independent t-tests were conducted between clusters for wine consumption, wine purchases, wine knowledge, and the average amount spent on a bottle of wine. Lastly, multinomial logit modeling of the full sample, and for each separated cluster was conducted to determine utility values for each of the wine attributes (i.e., wine name, award designation, and state designation) for each cluster segment using Stata/SE 14.2.

Results

A total of 338 surveys were completed, with a response rate of 55.5%. This resulted in 1,352 completed choice set items for the SPCM portion of the survey. Nine surveys were discarded after data cleaning due to incomplete responses for the block of SPCM questions, resulting in 329 usable questionnaires (1,316 choice set items).

Approximately 78% of respondents were female, and 65% of participants were from the state of Wisconsin. The majority of respondents were Caucasian (94.7%). Over half the respondents had a 4-year college degree or higher (61%) and 52% had a household income above the region's median. This demographic profile is in line with demographic results from a wine tourism study conducted in Michigan (Holecek & McCole, 2014), with the exception of gender. It is common for wine tourists to visit in groups of two or more, with most groups containing a member of both genders (Bruwer & Thach, 2013) and larger travel parties typically consisting of more women than men (Napa Valley Visitor Profile, 2016). In this study, couples and travel parties were often intercepted while together in the tasting room, and because it is common to have more female tasting room visitor than male visitors, having more female respondents is expected. Additionally, previous agritourism research in Wisconsin has shown that female agritourists such as wine tourists, are more likely to respond to surveys than male tourists (Brown & Hershey, 2012) and therefore suggests that a higher response from females is not uncommon for the region.

Among the respondents, only 26% of participants self-identified as "knowledgeable" or "very knowledgeable" about wine in general (see Table 4.3). There were three top primary reasons for visiting the winery across all respondents with the first being "To have a relaxing day out" (36.8%), "To socialize with friends or family" (17%), and "To purchase wine" (14.6%) (see

Table 4.4). During their winery visit, 92% of respondents purchased wine and spent an average of $15.53 for a bottle of wine. Just over 60% of respondents stated they consume wine at home at least once a week, with 31% purchasing wine from a winery for home consumption (see Table 4.5).

Table 4.2 Sociodemographic output for wine tourist respondents (N = 322)

Variable	**Categories**	**Values in %**
Gender	Female	78
	Male	22
Education	High School	11.4
	Some college	14.8
	College degree	39.4
	Graduate degree	22.2
	Other	12.2
Household Income	Less than $50,000	21.1
	$50-70,000	26.0
	$70,000+	52.9
Ethnicity	American Indian	0.3
	Caucasian	94.7
	Hispanic, Latino, Spanish origin	3.1
	Black, African American	1.6
	Chinese	0.3
State of Residence	Wisconsin	65
	Illinois	12
	Minnesota	9
	Other	14

Table 4.3. Self-assessed wine knowledge for wine tourist respondents

	Frequency	%
Not knowledgeable	46	14.0
Somewhat knowledgeable	197	60.0
Knowledgeable	74	22.6
Very knowledgeable	11	3.4
Total	328	100

Table 4.4 Primary purpose for visiting the winery

	Frequency	%
To purchase wine	48	14.6
To learn more about wine	13	4.0
To have a relaxing day out	121	36.8
To have a unique experience	51	15.5
To meet the winemaker	1	0.3
To socialize with friends or family	56	17.0
To be entertained	5	1.5
For an event	8	2.4
To enjoy a rural setting	7	2.1
Other	19	5.8
Total	329	100

Table 4.5 Respondents self-reported wine consumption at home

	Frequency	%
Only on special occasions	36	11.0
1 or 2 times per month	94	28.7
1 or more times a week	150	45.9
Almost everyday	47	14.4
Total	327	100

Notes: Coded 1-4 for descriptive analysis

Confirmatory Factor Analysis

The product involvement scale contains items that represent the degree to which the wine tourist is interested, excited, and exerts effort in wine as a product. The results indicated that the factor loadings ranged from 0.56 to 0.71 explaining 29% of the variance, with a good internal reliability estimate of 0.735 (Cronbach Alpha). The brand involvement scale contains items that reflect a casual effort versus a more thorough effort in choosing a product brand. The results indicated that the factor loadings ranged from 0.82 to 0.88 explaining 53% of the variance. The internal reliability estimate was 0.882, reflecting good reliability and consistency. The purchasing involvement scale contains items that represent the degree the wine tourist is involved in the purchasing activity of wine. The results indicate that the factor loadings range

from 0.53 to 0.86, explaining 36% of the variance. The reliability estimate was 0.771 indicating good internal reliability and consistency.

See Table 4.6. for the scales and factor loadings. Four items measuring product involvement, three items measuring brand involvement, and three items measuring purchasing involvement were retained based on high factor loadings and model fit from Lockshin et al.'s (1997) involvement scales. Factor scores were calculated using a regression approach and then saved to conduct the cluster analysis. The CFI model fit for the CFA is acceptable with a root mean square error of approximation (RMSEA) of 0.08 and a comparative fit index (CFI) of 0.94 (Jackson, Gillaspy, & Purc-Stephenson, 2009), as well as an acceptable normed fit index (NFI) of .94 (Schreiber, Stage, King, Nora, Barlow, 2006). See Figure 4.2 for the CFA model.

Table 4.6 CFA results for involvement measures

	Mean	S.D.	Factor loadings
Product involvement (α=0.735)			
I like having wine with my food.	4.10	0.966	0.56
I have a strong interest in wine.	3.91	0.981	0.71
Wine is one thing I have in common with some of my good friends.	3.68	1.182	0.62
I am very concerned about the wines I purchase.	3.28	1.094	0.66
Band involvement (α=0.882)			
Deciding which wine to buy is an important decision.	3.92	0.879	0.82
Which wine I buy matters a lot.	3.87	0.950	0.88
I choose my wine very carefully.	3.83	0.920	0.83
Purchasing involvement (α=0.771)			
I am willing to spend extra time shopping in order to get the cheapest possible price on wines of the same quality.	2.90	1.138	0.53
Being a smart shopper for wine is worth the extra time it takes.	3.49	0.930	0.80
Because of my personal values, I feel smart shopping for wine ought to be important to me.	3.31	0.926	0.86

Notes: 1 = Strongly disagree – 5 = Strongly agree; n = 329

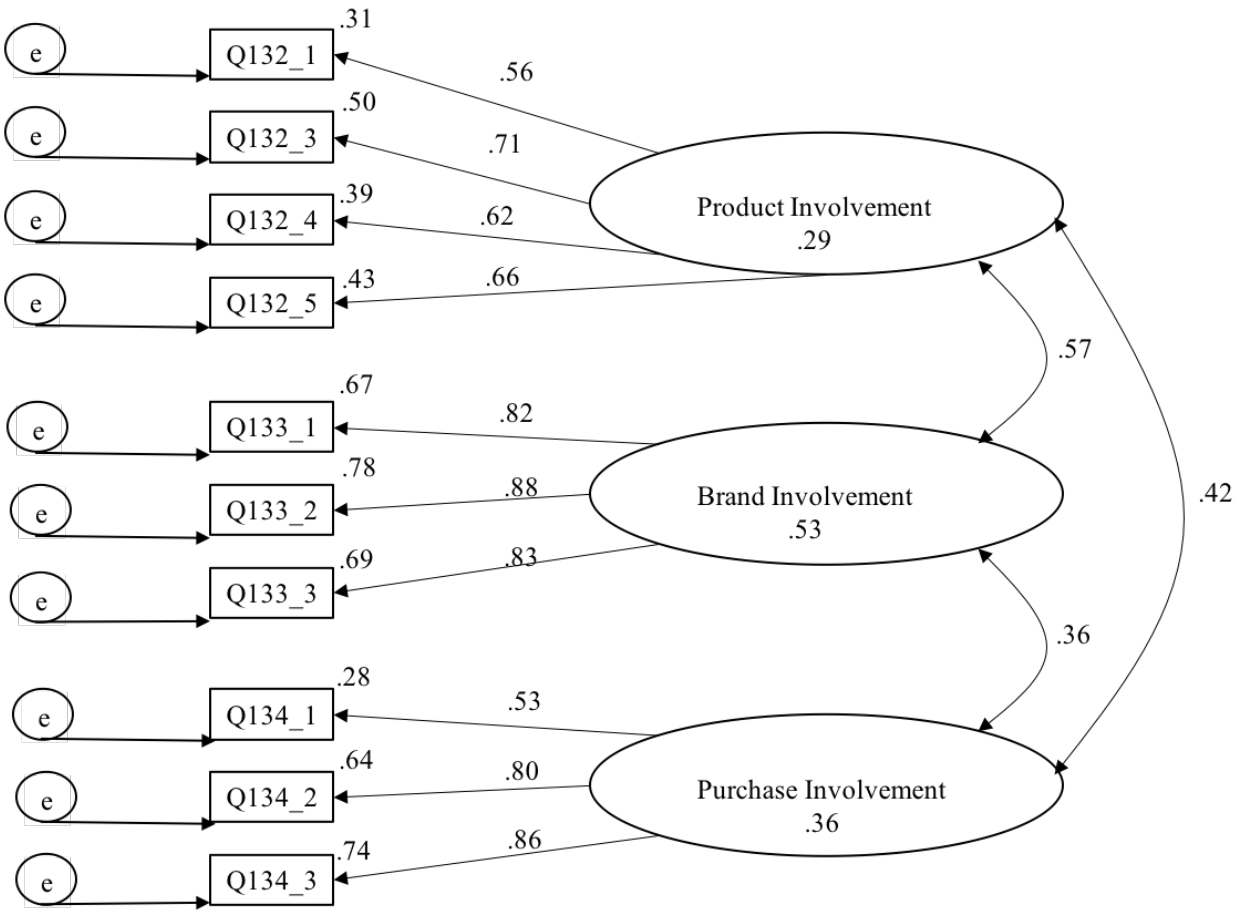

Figure 4.2 CFA model for involvement

Figure 4.2 includes the standardized parameter estimates which range from .53 to .88, as well as the explained variances for each type of involvement (e.g., product involvement = .29), the correlation between the different types of involvement (e.g. product involvement ↔ brand involvement = .57), and the reliability of each measure (e.g., Q134_3 = .74). For exact wording of each measure, see APPENDIX C for the involvement survey scales.

Cluster Analysis

Cluster analysis was used to develop segments of surveyed wine tourists. Since clustering analysis offers many solutions for segmenting groups, external validity is assessed using wine

purchased, wine knowledge, the average spent on a bottle of wine, and wine consumption. See Table 4.7 for cluster analysis results.

Table 4.7 Cluster analysis output (mean and percentage value for each cluster)

	Cluster 1 (36.2%)	Cluster 2 (63.8%)
Product involvement (1)	-0.46	0.26
Brand involvement (1)	-0.63	0.36
Purchasing involvement (1)	-0.40	0.23
Wine purchased (2)	5.25	7.71
Wine knowledge (3)	1.85	2.33
Average $$ spent on a bottle of wine	15.77	15.41
Wine consumption at home (4)	2.18	2.89
Primary purpose to visit winery (relaxing day out)	41.2%	34.3%
Primary purpose to visit winery (to buy wine)	10.9%	16.7%
Gender (female)	81.5%	75.8%
Income (more than $70,000)	50%	54.6%

(1) CFA factor score; (2) in bottles; (3) 1-4-point scale; (4) coded 1-4 (see Table 4.5)

Cluster 1 consists of 36.2% of respondents (n=119) classified as low-involved wine tourists. Overall, respondents are low in product, brand, and purchasing involvement, with brand involvement being the lowest. This cluster is classified as low-involved wine tourists (in comparison to the second cluster) and reflects lower levels of wine purchased during their winery visit (m = 5.25 bottles) and wine knowledge (m=1.85) than cluster two. Approximately half of the respondents have a household income above $70,000 and is largely comprised of females (81.5%). Just over 40% of respondents' primary purpose for visiting the winery was to have a relaxing day out (41.2%), and about ten percent visited with a primary purpose to purchase wine (10.9%).

Cluster 2 is comprised of 63.8% of the respondents and are classified as high-involved wine tourists (in comparison to cluster one). Of these respondents, they have higher levels of product, brand, and purchasing involvement than Cluster 1 respondents, with brand involvement having the highest factor loading. These respondents are relatively knowledgeable about wine

compared to Cluster 1 and consume a slightly higher amount of wine at home. On average, Cluster 2 respondents purchased two more bottles of wine on their winery visit (m=7.71 bottles) than Cluster 1 respondents (m=5.25 bottles), but at a slightly less amount per bottle of wine ($15.41). Nearly 35% of wine tourists in this cluster visited the winery with the primary purpose of having a relaxing day, and 16.7% with a primary purpose of purchasing wine. This group is comprised mostly of women (75.8%), although less than Cluster 1 (81.5% women), and almost 55% have a household income higher than $70,000.

The average level of wine knowledge for all respondents reflected they were "somewhat knowledgeable" (60.1% of respondents). An independent-samples t-test was conducted to discern if the level of wine knowledge between the two clusters is different. Results indicated that there is a significant difference of wine knowledge between the two clusters ($t(3934) = -22.07$, $p < .05$). The mean of low-involved wine tourists (Cluster 1) ($m = 1.85$, $SD = 0.589$) was significantly lower than the mean of high-involved wine tourists (Cluster 2) ($m = 2.33$, $SD = 0.684$). Additionally, there was a significant difference for the amount of wine purchased during respondent's winery visit between low-involved and high-involved wine tourists ($t(3622) = -7.84$, $p < .05$). Low-involved wine tourists purchased an average of two bottles less ($m = 5.25$, $SD = 6.11$) than high-involved wine tourists ($m = 7.71$, $SD = 10.17$). Comparing the mean scores of low-involved wine tourists and high-involved wine tourists for wine consumption at home found a significant difference between the two clusters ($t(3922) = -27.09$, $p < .05$). The mean for low-involved wine tourists home wine consumption was significantly lower ($m = 2.18$, $SD = .860$) than that of high-involved wine tourists ($m = 2.89$, $SD = .746$). Lastly, there was no significant difference found for the average amount spent on a bottle of wine between low- and high-involved wine tourists.

SPCM

Respondents' utility differences for wine attributes are estimated using logistic regression analysis (Lawson & Manning, 2002; Pearmain, 1991). Implicit price was calculated to obtain wine tourists value for each attribute by dividing the parameter estimate by price term parameter estimate (Hanley, Mourato, & Wright, 2001; Oh, Ditton, Genter, & Riechers, 2005). Logistic regression analysis was conducted for each separate cluster to identify the difference between low- and high-involved wine tourists' utility. A correlation matrix and a variance inflation factor (VIF) was conducted to detect potential collinearity across attributes. Table 4.8 presents results, showing an only slight correlation between the price and the three other attributes. Correlation is minimal and an expected positive relationship. VIFs were computed and showed that multicollinearity is not an issue among attributes, with all values well below the threshold of 10.

Table 4.8 Correlation matrix

Attribute	Wine name	Award designation	State designation	VIF
Award designation	0.0888			1.19
State designation	0.1480	0.1429		1.10
Price	0.3929	0.3890	0.3007	1.47

The logit model for all respondents is significant at the .05 level according to the Model chi-square statistic ($p < 0.000$). The attribute coefficients have the expected signs, and significant coefficients magnitude reflects the relative importance of the respective attribute. Findings presented in Table 4.9 indicate that award designation, state designation, and price coefficients are statistically significant at the $p < .05$ level.

Table 4.9 Coefficient estimates of wine attributes for all respondents

Attribute	Coefficient	Standard error	Z - value	P value	Implicit price
Wine name:					
Artistic	-0.0632**	—		—	-0.84
Varietal	0.0632	0.039	1.59	0.112	0.84
Award designation:					
No award	-0.2996**	—		—	-3.99
Award	0.2996*	0.040	7.40	0.001	3.99
State designation:					
No state	-0.2625**	—		—	-3.48
State	0.2625*	0.038	6.79	0.001	3.48
Price:	-0.0755*	0.005	-12.95	0.001	

Notes: Significance at *0.05 level
**The coefficients for the excluded level of each corresponding attribute were not estimated by the model. They are equal to the negative sum of the coefficient on indicator variables for each corresponding attribute (Lawson & Manning, 2002).

Low-involved wine tourists (Cluster 1) have the highest utility for the state designation attribute. Award designation was the second preferred wine attribute, although low-involved respondents still had less utility for the award designation than high-involved respondents. Lastly, the negative coefficient for the price attribute reflects that low-involved respondents prefer a lower price point when choosing a wine to purchase. State designation, award designation, and the price attribute are associated with p values of less than .05. The name attribute for low-involved wine tourists had a weaker association. Coefficients for each wine attribute have the expected signs.

All coefficients for high-involved wine tourists (Cluster 2) had associated p values of less than .05 with each possessing the expected sign. The coefficient size is largest for the award designation, followed by the state designation, wine name, and lastly, the price attribute. Specifically, high-involved respondents are likely to pay more for a wine with an award and a state designation, as well as a varietal wine name rather than an artistic name. The logit model fit for each of the clusters is significant at the $p < .05$ level based on the Model chi-square statistic ($p < 0.000$).

Table 4.10 Coefficient estimates of wine attributes for low- and high-involved wine tourists

Attribute	Coefficient		Standard error		Z - value		P value		Implicit price	
	Low	High	Low	High	Low	High	Low	High	Low	High
Wine name										
Artistic	0.020**	-0.109**	—	—	—	—	—	—	-0.26	-1.45
Varietal	-0.020	0.109*	0.067	0.05	-0.30	2.21	0.76	0.03	0.26	1.45
Award designation										
No award	-0.269**	-0.330**	—	—	—	—	—	—	-3.20	-4.41
Award	0.245*	0.330*	0.068	0.05	3.61	6.53	0.00	0.00	3.20	4.41
State designation										
No state	-0.269**	-0.258**	—	—	—	—	—	—	-3.52	-3.45
State	0.269*	0.258*	0.065	0.05	4.15	5.36	0.00	0.00	3.52	3.45
Price:	-0.077*	-0.075*	0.009	0.01	-7.86	-10.27	0.00	0.00	—	—

Notes: Significance at *0.05 level

**The coefficients for the excluded level of each corresponding attribute were not estimated by the model. They are equal to the negative sum of the coefficient on indicator variables for each corresponding attribute (Lawson & Manning, 2002).

Discussion

Because wine tourists differ across regions and types of wineries (Mitchell, Hall, & McIntosh, 2000), this research segmented wine tourists who visited wineries in Wisconsin and Minnesota based on their wine involvement. Cluster analysis identified two distinct segments among tasting room visitors in Wisconsin and Minnesota: low-involved and high-involved wine tourists. Next, SPCM assessed how the different wine tourists in each cluster value cold-hardy wine product attributes.

Previous research suggests that higher involved wine consumers look for and evaluate more wine product attributes than low-involved consumers when making a wine selection (Dodd & Gustafson, 1997; Hollebeek, Jaeger, Brodie, & Balemi, 2007; Lockshin et al., 1997; Lockshin & Spawton, 2001). Therefore, it was expected that compared to low-involved respondents, the high-involved respondents would prefer a cold-hardy wine possessing more information about the wine in the form of product attributes to use when evaluating a wine, and ultimately, have a higher utility for these attributes. Yet, results show low-involved wine tourists have a higher utility for state designation. This finding contradicts previous research that suggests higher involved wine consumers utilize region of origin (i.e., represented by a state designation in this study) more than low-involved wine consumers (Hollebeek et al., 2007; Lockshin et al., 2001).

Lockshin et al. (2006) found that high-involved consumers preferring region of origin more than low-involved consumers, was only the case for well-known wine regions. Because this study took place in the context of small tasting rooms in less recognized wine regions of Minnesota and Wisconsin, it may be a contributing factor to this finding. Additionally, low-involved respondents were significantly less knowledgeable of wine and consumed less wine than high-involved respondents, suggesting they may not have as well-developed palates to

discern quality (or lack thereof) for locally produced wines in less developed wine regions. Nevertheless, at first glance, this result may support using a state designation to target low-involved visitors, but it should not be discounted as a valuable attribute to highlight for high-involved wine tourists since it was also a preferred attribute for them and they comprise approximately 64% of respondents in this study.

Respondents in the higher involved wine cluster had a higher preference for a varietal name versus an artistic name compared to low-involved tourists. This result is in line with Chaney's (2000) position that consumers select wines by varietal name instead of an artistic (i.e., brand) name. Chaney posits that this may be due to an increase in consumer wine knowledge. Since results show that high-involved respondents had high wine knowledge and scored highest in brand involvement, their awareness of Marquette wine as a cold-hardy "brand" for cold-climate regions may be a contributing factor to this finding.

Research suggests that low-involved respondents consider fewer wine attributes when making a wine selection (Lockshin & Spawton, 2001), yet, they utilize an award designation as a quality indicator and will pay more for an award-winning wine (Lockshin et al., 2006). Therefore, low-involved respondents may be expected to place more preference on an award designation than high-involved wine tourists when selecting wine, but results of this study found the opposite. Although, low-involved respondents still placed significant utility in awards, high-involved respondents had higher utility for an award designation. A possible explanation for this finding is that although the high-involved respondents self-reported a higher level of wine knowledge than low-involved respondents, they may have less experience with cold-hardy wines and therefore rely more heavily on an award designation to fill their knowledge gap and signal quality.

Findings also indicate that low-involved wine tourists had a higher preference for a lower price point than high-involved wine tourists. This study aligns with Zaichkowsky's (1988) findings which identified that low-involved wine consumers focused on price when choosing a wine, and that as involvement increases, price as a cue decreases when making a wine purchase. Also, high-involved wine tourists purchased an average of two more bottles of wine than low-involved tourists during their winery visit, which supports the finding that a low price point is of less significance to high-involved visitors. In regard to respondents' involvement level and purchasing behavior, this finding supports previous studies that suggest consumers with high product involvement spend more on wine purchases (Lockshin et al., 2006; Rasmussen & Lockshin, 1999).

Concerning wine purchases made, the low-involved cluster was highest in purchasing involvement (out of the three types of involvement), and since high purchasing involvement indicates these respondents would be likely to spend more time looking for the best deal, it may reflect in the decreased wine purchases. Since purchasing involvement is focused on the purchasing process, low-involved respondents preference for a low price may be because they utilize less information and spend less time talking with winery staff in the tasting room (Lockshin & Spawton, 2001). Additional research is needed to understand the difference in the purchasing process for low-involved visitors verse high-involved visitors in the context of the tasting room.

Lastly, the resulting utility levels (calculated implicit price) of each wine attribute reveal wine tourists are likely to pay more for a bottle of wine with certain wine attributes. Low- and high-involved wine tourist clusters show that both are likely to pay more for a wine that has an award (low-involved = $3.20; high-involved = $4.41) and state designation (low-involved =

$3.52; high-involved = 3.45). High-involved respondents are also likely to pay an additional $1.45 for a bottle of wine with a varietal name versus an artistic name. The wine name was not a preferred attribute for low-involved wine tourists, which may be because they have less wine knowledge and may not recognize Marquette as a varietal.

Theoretical Implications

Research aimed at understanding visitors' preference and purchasing behavior, is in the beginning stages in the cold-climate wine regions of Minnesota and Wisconsin. The current study demonstrates that the level of involvement does impact wine tourists' preferences and specifically, their utility for wine attributes. The three types of involvement measures included purchasing, brand, and product involvement, of which were based on Lockshin et al.'s (1997) scales and were adapted for application to a winery tourism context. Despite the growth of winery tourism research, no universal approach for understanding how involvement impacts wine tourists' preferences and utility for wine attributes exists. This study contributes to wine tourism literature by linking involvement with wine tourists' utility for wine attributes when making a wine purchase specific to cold-hardy wines in the cold-climate regions of Minnesota and Wisconsin.

Previous research has examined involvement in combination with other constructs such as motivation, to examine tourists' needs, values, and interests (Carlsen & Boksberger, 2015; Prebensen et al., 2012). This study is one of few that integrates multiple measures of *different types* of involvement when profiling consumers (e.g. see Lockshin et al., 1997; Lockshin et al., 2006) and is the only study to do so in the context of cold-climate wine regions. Additionally, this research expands the use of the involvement construct to segment wine consumers by including respondents actual spending behavior. Examining respondents actual spending

behavior in conjunction with their stated willingness-to-pay creates a reference point of wine tourist spending behavior in cold-climate wine regions. By combining involvement, SPCM, and actual spending behavior when segmenting and characterizing cold-climate wine tourists this research establishes a method to create more robust wine tourist profiles.

Also, to the authors knowledge there are few studies in wine tourism research that measure involvement using multiple scales to account for the multidimensional nature of this construct (Lockshin et al., 1997; Lockshin et al., 2006). Although the current study findings provides partial support for this previous research, results are inconsistent across studies and illustrate that findings can differ depending on the study context. For instance, Lockshin et al. (1997) also measured product, brand, and purchasing involvement and using cluster analysis identified five different types of wine consumers; this research identified two different clusters of wine tourists. Lockshin et al. (1997) conducted their research at retail outlets in established wine regions in Australia, while this research was conducted at wineries in emerging cold-climate wine regions in the U.S. Although findings differ, with context being a contributing factor, the current study expands the application of consumer involvement theory specifically to wine tourism (i.e. wine tourists as a subset of wine consumers), and supports the use of measuring different types of involvement to segment and profile tasting room visitors.

This research confirms the need for further research on the application of involvement scales in the area of wine tourism. Because this research was funded by a USDA NIFA Specialty Crops Research Initiative (SCRI) that requires the focus to be on applied research that is identified and prioritized by stakeholders, this study used Lockshin et al.'s (1997) scales so the survey instrument would be less burdensome for respondents to complete due to their brevity. Adding additional survey items or longer involvement scales was not feasible as this research

was part of a larger suite of studies that may have been negatively impacted by reduced response rates if the survey instrument was too lengthy. Yet, despite previous reliability testing of the scales (Lockshin et al., 2006; Quester & Smart, 1998), CFA results required modification of the scales, resulting in a reduced version of the three original scales to obtain a suitable model for measuring involvement. Needing to modify existing involvement scales is not an uncommon issue among studies utilizing involvement measures (for example, see Gross & Brown, 2008; Mittal & Lee, 1989; Quester & Smart, 1998). Testing of the three scales used in this study in additional cold-climate wine regions is suggested to help identify the most appropriate way to measure wine tourist involvement. Consideration should be given to the context of future studies to ensure research provides emerging cold-climate wine regions with useful implications for winery tourism operators and wine tasting room managers.

Practical Implications

Previous research suggests wineries focus on high-involved wine consumers because they tend to spend and purchase more (Lockshin et al., 2006). But this study revealed that price points are not significantly different for each cluster, and therefore emphasis should be put on awards, state designation (i.e., region of origin), and branding cold-hardy wines using a varietal name for both clusters. Specific recommendations are also included for low- and high-involved wine tourists segments with the aim of increasing tasting room sales in each segment. Because small wineries often sell the majority of their wine out of the tasting room (Holecek, McCole, & Lee, 2016), they are dependent on tasting room sales. By approaching both segments individually, but concurrently, wineries can work to increase sales among high-involved wine tourists, while also working to increase involvement levels among the low-involved visitors.

Although high-involved wine tourists significantly prefer a varietal wine name as compared to low-involved tourists, previous research findings suggest that unknown brands (i.e., varietals) in unfamiliar wine regions may negatively impact sales (Lockshin et al., 2006). Therefore, it is suggested that winery operators collectively build awareness of their cold-hardy wines by using varietal names to promote and educate visitors about the new hybrid grapes and wines. By doing so regardless of visitors' level of involvement, the industry can increase knowledge of cold-hardy wines among tourists and increase their level of interest (i.e., involvement). Increasing awareness of their respective wine region can also help improve loyalty and repeat purchase behavior among visitors (Jarvis, Rungie, & Lockshin, 2003; Mitchell & Hall, 2004).

It is also suggested an emphasis be placed on direct marketing tactics in the tasting room since low-involved wine tourists respond to direct marketing tactics (Lockshin & Spawton, 2001) and were highest in purchasing involvement. Explicitly calling attention to wines that have won awards and have a state designation (i.e., produced locally), and communicating the value of the product to low-involved visitors can help raise the credibility of the local region for wine quality, increase sales, and foster interest. Specifically, describing the environmental and economic benefits that a winery provides to the region can help boost interest in the winery and their products (i.e., increase product involvement).

Communicating effectively with low-involved wine tourists may be challenging since research suggests that low-involved consumers do not like to engage with winery staff (Lockshin & Spawton, 2001). Tasting room staff must, therefore, be cognizant of their visitors from the moment they walk through the cellar door and devise questions that help them identify visitors' level of involvement to discern what strategy to use to engage them. This is especially important

since research has demonstrated that consumers are afraid of appearing inexperienced or looking ignorant when purchasing wine (Gluckman, 1990). The brevity of the survey instrument used in this study may serve as a template for winery staff to develop questions that directly get at identifying visitors' level of involvement (Lockshin et al., 1997).

Additionally, because low-involved wine tourists were lowest in brand involvement, it is suggested that winery operators collaborate with wineries in their region to develop wine clubs that promote the different brand selections within their region. It is not uncommon for small wineries to individually create an air of exclusivity concerning wine clubs by catering to the high-involved visitors that tend to spend more. But this study shows that all visitors paid roughly the same for a bottle of wine despite their level of involvement. So, wineries collaborating with each other to create wine clubs that cater to low-involved visitors by offering brands from the region verse only an individual winery may help to increase their involvement, as well as their loyalty to participating wineries. Increasing involvement levels among low-involved wine tourists is critical since research suggests small wineries depend on sales to high-involved consumers (Lockshin et al., 2006).

In addition to winery operators working to increase involvement levels of low-involved wine tourists, it is also suggested that winery operators focus on cultivating long term relationships with high-involved wine tourists. Because high-involved wine consumers tend to spend more, are less sensitive to purchasing risks (i.e., are more willing to try new and different wines), and are more trusting of wine sales personnel (Lockshin et al., 1997), it is also suggested that winery operators develop wine clubs exclusively geared toward high-involved tasting room visitors. A wine club for high-involved winery visitors should include more educational materials and opportunities than a wine club for low-involved visitors because high-involved

visitors enjoy learning about the wine (e.g., its origin and how that makes it unique) in addition to having a positive or relaxing experience (Charters & Pettigrew, 2006).

Chaney's (2000) position that consumers select wines by varietal name instead of an artistic (i.e., brand) name. Chaney posits that this may be due to an increase in consumer wine knowledge.

Limitations

The findings presented must be considered in conjunction with the limitations of the study. Generalization is difficult due to issues of seasonality and sampling procedures. It is uncertain as to whether the clusters identified and their respective utility for wine attributes would differ during other seasons. Replicating this research over different seasons would address this issue. Future research could also incorporate on-site surveying by researchers at various participating wineries (if research resources allowed for such sampling), as well as utilizing winery email list-serves of winery visitors to invite visitors to participate in the survey. However, researchers would need to be cognizant of issues such as interfering with visitors' wine tourism experience, how to manage intoxication issues, and the costs associated with on-site sampling.

Additionally, the SPCM method used in this study allowed the researchers to estimate wine tourists' relative utility for wine attributes, but it does not allow for the exact estimates to be calculated since this method is hypothetical. Future research should examine the preferred attributes (and their respective levels) identified in this study using revealed (actual) choice set data or a non-hypothetical method to identify wine tourists' true willingness-to-pay.

Lastly, although this study used three different types of involvement to discriminate tasting room visitor segments successfully, it would prove informative to investigate how tasting room visitors' experiences contribute to different forms of involvement and purchasing behavior.

Specifically, since factors associated with wine involvement cannot be assumed to be factors associated with wine tourism, experiences and winery attributes may, in fact, have more influence on purchasing behavior than involvement levels. For example, the three top reasons for respondents' primary purpose for visiting the winery in this study were focused on experience-driven motives (see Table 4), not on purchasing wine. Additional research is needed to explore the relationship between wine tourism experience and wine tourist involvement.

Conclusion

This study contributes to the cold-hardy wine industry by providing winery operators and tasting room managers information to develop targeted marketing strategies based on their visitors' involvement and preferences for particular wine attributes. Attributes were explicitly identified by winery operators to ensure results would provide meaningful recommendations specific to their wine region(s). Two clusters were determined based on wine tourists level of involvement and recommendations made based on their associated utility for wine attributes. Because winery operators cannot meet the needs and desires of every person, segmenting their visitors into target groups based on involvement can help to reduce marketing costs, as well as increase revenue by focusing on target groups that provide the most potential for increased sales. Previous research indicates that small production wineries should focus on high involvement wine tourists when developing marketing and promotional strategies (Lockshin & Spawton, 2001). But the current study findings suggest that winery operators employ a combination of marketing strategies that target low- and high-involved visitors to increase wine involvement and utility of wine attributes to boost tasting room sales.

CHAPTER 5: CONCLUSIONS

There have been several studies exploring the extent to which wine information and attributes influences wine consumer behavior (Bruwer & Li, 2007; Chrea, Melo, Evans, Forde, Delahunty, & Cox, 2011; Famularo, Bruwer, & Li, 2010; Marzo-Navarro & Pedraja-Iglesias, 2010). While these studies produce meaningful results, each study tends to examine a particular issue (e.g., branding, wine label design, award designation), using a single method, and conducting the research in contexts that do not allow results to be generalized to additional contexts. Because this dissertation research focused explicitly on the cold-hardy wine industry, the research findings also faced similar constraints. To address this issue, this dissertation research was designed using three different methods to explore the impact of wine-based product messages and attributes on wine tourists' willingness-to-pay and preferences for a given cold-hardy wine. The approaches included three different, but complementary studies, each using a different method. The first approach used experimental auctions, the second used stated preference choice modeling (SPCM), and the third combined SPCM with segmentation by psychographic measures. The objective of this chapter is to illustrate differences or consistencies in results across methods and to illustrate how different methodologies may create differing implications for industry stakeholders (i.e., winery operators).

Each of the three studies used a different method to examine wine tourists' preferences or willingness-to-pay (WTP) for a given cold-hardy wine to provide winery operators information to enhance their marketing strategy specific to the tasting room. The following research question guided the Chapter 2 study: Do different types of product messages (local message, award message, grape/sensory message) influence consumer willingness-to-pay for cold-hardy wine? The Chapter 3 study was guided by the research question: How does wine attribute information

influence tasting room visitors' utility for a given cold-hardy wine? Lastly, in Chapter 4 researchers examined wine tourists' involvement with wine and their associated preferences and utility for cold-hardy wine attributes. Examined comprehensively, the results from these studies provide valuable insight about winery tourists in the cold-climate wine regions.

Regarding the research question in Chapter 2, the method used to examine how different product messages impact wine tourists' WTP for a given cold-hardy wine offered important results for winery operators. Findings revealed that wine tourists' WTP increased after reading any product message about sampled wines (a $0.61increase), with significant increases for product messages containing a local (a $0.59 increase) or award (a $1.21 increase) message. Implications based on this research include winery operators entering their wines into wine competitions and communicating to visitors about their award-winning wines, as well as marketing when wines were produced locally and promoting the benefits this provides for their region to wine tourists.

To answer the research question in Chapter 3, several of the wine attributes examined significantly impacted wine tourists' utility for a given cold-hardy wine. Wines that possessed a state designation increased respondents' utility by $3.48, while wines with an award designation increased utility by $3.99. Price also significantly impacted respondents' utility, reflecting a preference for wines at lower price points. A wine having a varietal name versus an artistic name did not have a significant impact on wine tourists' utility or preferences. There are several implications for winery operators based on this research. Implications include entering wine competitions and promoting award-winning wines, and promoting a state designation (e.g., promoting locally made wines and the benefits associated with locally produced wines). Lastly, although the wine name (i.e. artistic or varietal) did not have a significant impact on respondents'

preferences, it is suggested that winery operators name their wines using a varietal name to help build awareness of cold-hardy wines.

In Chapter 4, wine tourists' involvement with wine proved an appropriate way to segment wine tourists and identified their respective preferences and utility for cold-hardy wine attributes. Wine tourists were segmented into low and high involvement groups. Results revealed that low-involved wine tourists preferred wine with an award designation with an increase in utility of $3.20, and a state designation with a utility increase of $3.52. Findings for low-involved wine tourists regarding an artistic versus varietal wine name show a weak association for either name. High-involved respondents preferred wine with a state designation ($3.45 utility increase), an award designation ($4.41 increase in utility), and wine with a varietal name ($1.45 utility increase). Implications of this study suggest winery operators create marketing strategies that highlight award and state designations, as well as brand their cold-hardy wines using a varietal name for both high- and low-involved wine tourists. Specialized wine clubs are suggested for low-involved wine tourists, and a focus on direct marketing tactics in the tasting room geared toward increasing interest and sales (i.e., increasing product and purchasing involvement). Lastly, it was recommended that winery operators brand their wines using varietal names versus artistic wine names.

Theoretical Implications

One purpose of this dissertation research was to explore each study's methods to discern best practices for future wine tourism research. Research in Chapter 2 utilized the Becker, DeGroot, and Marschak (BDM) experimental auction procedure (Becker, DeGroot, & Marschak, 194), a novel method in the field of tourism. Chapter 3 and Chapter 4 studies used more well-known methods in tourism research such as SPCM and psychographic measurement (i.e.,

involvement). The BDM experimental auction procedure provides a non-hypothetical valuation method that reveals respondent's true value for a product or service, whereas SPCM is a hypothetical experiment representing respondents stated utility. Overall, the three studies in this dissertation provide insight into wine tourists behavior specific to the tasting room and cold-hardy wines, but each has pros and cons to using them in wine tourism research.

BDM Experimental Auctions

Several difficulties specific to running BDM experimental auctions in the context of the tasting room included sample size, budget restrictions, time constraints, and complications due to licensing requirements. It is often difficult to obtain large sample sizes for BDM auction experiments due to time and budget constraints. Each BDM auction conducted for this research took an average of 20 to 30 minutes to complete, and once the experiment was complete, additional time was spent with participants answering any questions related to their general interests about cold-hardy wine and the cold-climate wine industry. Because of this, it can be difficult to recruit large sample sizes when each BDM auction requires a significant time investment by the researcher. Additionally, BDM auctions require the researcher to have the product(s) available to sell during the experiment. This research included four different Marquette wines that were purchased for the study. Researchers needed to have an adequate supply of each of the four Marquette wines because participants would potentially be purchasing one of the four bottles at the end of each experiment. Therefore, the number of auctions that may be conducted is dependent on the number of wines sold during the experiments, as well as how much wine was initially purchased to do the experiments, which is dependent on the research budget.

Lastly, conducting BDM auctions for a product such as wine requires additional licensing approval. Specifically, since researchers were the individuals selling the wine to participants, and the wine sold was not produced on the premises, special event licensing from the Michigan Liquor Control Commission (MLCC) was required. This licensing requirement may vary by state, but to obtain one, several recommendations are made for scholars pursuing research that includes the sale of alcohol substances such as wine, beer, or spirits.

First, it was essential to communicate what experimental auctions are, how they are conducted, and why non-hypothetical experiments required researchers to *sell* wine to participants. Communication was achieved by way of a letter and in person at the licensing hearing. Second, communicating the small scale of expected sales as a result of experiments also assured members of the MLCC that distribution and revenue were not the purposes of the experimental auctions. Lastly, several researchers and lawyers from the research institution attended the licensing hearing to advocate for approval of the special event license. Each person was able to help build a solid argument for approval by clearly explaining the points highlighted above, it was not until it was explained that the license was essential for completing a research requirement for a Ph.D. program that the board approved the license. In this particular case, it proved helpful to have the Ph.D. student present to advocate for their research and education. A license was obtained on the basis that selling the wine was part of an educational program (a Ph.D. research project), that the experimental auctions were only to be licensed for four days, and that auctions would just take place on those four days during the host winery's operating hours.

SPCM Experiments

SPCM experiments provide researchers a cost-effective way to survey wine tourists to identify their preferences and utility for cold-hardy wine. Studies in Chapters 3 and 4 implemented SPCM experiments via an online survey using Qualtrics software. An online survey can reduce cost and allow for easier data management, but it also limited the sample to wine tourists that prefer email by omitting those that prefer postal mail. Additionally, because the research budget did not allow for researchers to be present at every participating winery to intercept wine tourists, researchers had to rely on winery staff to intercept visitors. This was a cost-effective way to secure participants, but it has potential to create a sample bias.

Lastly, the hypothetical nature of SPCM experiments can result in inflated utility levels because respondents are not required to make actual purchases based on their stated value (i.e., utility). An overstated utility is one of the tradeoffs between conducting a hypothetical experiment (i.e., SPCM) versus a non-hypothetical experiment (e.g., BDM auctions) where true WTP is identified. But the ability to obtain a higher sample size using SPCM methods is a favorable tradeoff to the lower sample sizes common in BDM experiments in certain contexts.

Based on the above discussion, future researchers and industry stakeholders should use caution to ensure the appropriate method is selected to achieve their research goals. In this dissertation research, using a combination of BDM and SPCM methods achieved the purpose of identifying wine tourists' preferences concerning WTP for cold-hardy wine information and attributes.

Implications for Cold-Hardy Wine Industry

Based on this research, there are several key takeaways for winery operators in cold-climate regions. Despite each study using different methods and having different samples and

results, some findings across the studies resulted in some overlapping implications for winery operators. For example, recommendation for winery operators to enter their wines into wine competitions is supported by findings in Chapters 2, 3, and 4. Whereas support for winery operators to specifically brand their wines using a varietal name (e.g., Marquette) was found only in Chapter 4 after respondents were segmented into high- and low-involved wine tourists.

Also, respondents from all three studies were found to be of similar demographic characteristics with samples consisting of mostly European-American, female, and college educated respondents having a mid to high level household income. The respondents' demographic characteristics are consistent with the average wine tourist visiting the cold-climate regions of Michigan, Wisconsin, and Minnesota (McCole, Holecek, Lee, & Eustice, 2018). Despite similar demographics, results in Chapter 4 found that segmenting wine tourists based on their level of involvement with wine is a viable way to identify subsets of visitors in cold-climate wine regions. Segmenting respondents in Chapter 4 resulted in the identification of wine tourists with low- and high-involvement, with each segment having different preferences and utility for cold-hardy wine attributes. Low-involved wine tourists have low product, brand, and purchasing involvement. Low-involved tourists also purchased less wine than high-involved tourist, and have less knowledge of wine than the high-involved segment. The high-involved wine tourist segment also consumed more wine at home compared to the low-involved segment.

This research supports previous findings that consumer wine purchasing behavior differs regarding their level of involvement with wine (Lockshin, Jarvis, d'Hauteville, & Perrouty, 2006; Bruwer, Burrows, Chaumont, Li, & Saliba, 2014). Therefore, segmenting wine tourists based on involvement level to create targeted marketing and promotion strategies specific to the tasting room context is suggested.

Recommendations for Future Research

The findings of this dissertation research provide a platform for future research in the area of wine tourism. Because BDM experimental auctions are novel to the tourism industry, replication of the Chapter 2 study in other cold-climate wine regions is suggested. Also, based on findings in Chapter 2, it is recommended that BDM auctions would prove useful in different contexts such as distilleries or breweries that are interested in knowing visitors true WTP for new products.

Concerning segmentation methods, additional research is needed to improve the validity and reliability of involvement scales in measuring wine tourists' different types of involvement with wine in the tasting room context. Future work should incorporate additional wine tourism elements that may impact involvement. For example, wine elements such as wine tourist experiences and purpose of winery visit have been found to contribute to winery visitors wine consumption and brand loyalty (Shapiro & Gómez, 2014), and may prove to have significant impact on wine tourists' involvement with wine.

Lastly, as the wine and tourism industries continue to meld, tourism operators and wine producers that either share or manage responsibilities for both sectors need to understand and integrate the different characteristics relevant to each respective industry to build prosperous wine tourism regions. Researching the intersection between these two industries can inform marketing and branding strategies that work to support wine tourism in rural areas and their respective communities.

APPENDICES

APPENDIX A

Experiment Protocol

- I am reading these instructions to ensure that everyone gets exactly the same information.

- I have here four **different** red wines. In a minute, I will pour a small sample of each of the wines. You will then be asked to rate each of these four wines on a scale from 0-10, **with 10 being the highest**, and bid what you would be willing to pay for a bottle of each wine. You will record these ratings and bids on this sheet of paper [point to paper]. You will rate and bid on the wines three different times: the first time after observing and smelling the wines; again after tasting the wine; and then one last round after reading some information about the wine. Each time you rate the wines and bid what you would be willing to pay for a bottle, you might change your rating up or down, or keep it the same.

- After you have completed all three rounds, you will have recorded a total of 12 ratings and 12 bid prices. At that point, you will role an 8-sided die (point to die) to decide which bid will be what we call the "binding bid." I'll circle that bid in red, **and this is the only bid that will count.** None of the first round bids will be used, because you will not have tasted the wines yet.

- After I circle the "binding bid", you will draw a bingo ball from the bingo cage that has a number corresponding to a price. You will not know the range of prices, but they are consistent with the most common wine prices you might find at Michigan wineries, ranging from prices for a low-priced wine to a higher priced wine (though not as high as a very expensive premium or elite wine).

- Now, if the randomly drawn price (*point to the bingo cage*) **is *HIGHER* than the price you indicated on your binding bid, the circled price (*point to the sheet*),** you may not buy that wine, or any of the other three wines. If this is the case, you will be done with this experiment.

- If the randomly drawn price is ***lower* than or equal to the price you indicated on your "binding bid," you will buy a bottle of that wine, but you will pay the price drawn from the bingo ball cage, which will be lower** (unless the two prices are the same, which would be rare).

- As you will see, it makes sense for you to bid the actual price you are willing to pay for a bottle of each wine. If you're not crazy about the wine, you should bid lower (or even zero) for that wine, so that you don't end up paying more than you are willing to for that particular wine. If you like the wine, however, you should bid the highest price you would be willing to pay for a bottle of that wine or else you risk the chance of not being able to obtain a bottle of the wine. And remember, the price you will actually pay for the wine will be less than your bid (unless the price from the bingo cage is exactly the price you bid).

- If you have general questions about this research or about the wines, one of us will answer them after the experiment. If you have any questions about the procedures of this experiment, you can ask them now.

APPENDIX B

Sample Product Messages

Information

All four of these wines are made with Marquette grapes. The Marquette grape is a "grandson" of Pinot Noir. The wine made from these grapes has desirable notes of cherry, berry, black pepper, and spice on both nose and palate. These grapes produce a medium-bodied wine with an attractive ruby color. A relatively new wine varietal, Marquette wines have won many awards at national and international wine competitions over the past five years.

Information

All four of these wines are made with Marquette grapes. The Marquette grape is a "grandson" of Pinot Noir. The wine made from these grapes has desirable notes of cherry, berry, black pepper, and spice on both nose and palate. These grapes produce a medium-bodied wine with an attractive ruby color.

Information

All four of these wines are made with Marquette grapes. Compared to many other red wine grapes, Marquette grapes tend to better endure extreme winters and they ripen in a shorter growing season. These grapes flourish in the soils and microclimates of the upper Midwest and are helping wineries across the northern United States produce local wines with local grapes. The wine tourism that is generated by these wineries is benefitting the rural communities around them.

APPENDIX C

Involvement survey scales

We are interested in knowing about your wine preferences. Please read each statement below and rate how much you agree with each on a scale of 1 to 5.

	Strongly disagree (1)	(2)	Neutral (3)	(4)	Strongly agree (5)
I like having wine with my food.	❍	❍	❍	❍	❍
**It does not have to be a special occasion to enjoy a bottle of wine with dinner.	❍	❍	❍	❍	❍
I have a strong interest in wine.	❍	❍	❍	❍	❍
Wine is one thing I have in common with some of my good friends.	❍	❍	❍	❍	❍
I am very concerned about the wines I purchase.	❍	❍	❍	❍	❍

**Deleted from final scale due to poor factor loading.

We are interested in knowing about how you decide to buy wine you consume. Please read each statement below and rate how much you agree with each on a scale of 1 to 5.

	Strongly disagree (1)	(2)	Neutral (3)	(4)	Strongly agree (5)
Deciding which wine to buy is an important decision.	❍	❍	❍	❍	❍
Which wine I buy matters a lot.	❍	❍	❍	❍	❍
I choose my wine very carefully.	❍	❍	❍	❍	❍
**I enjoy choosing the wine to match the occasion.	❍	❍	❍	❍	❍
**Deciding among the many different wines takes time when I shop.	❍	❍	❍	❍	❍

**Deleted from final scale due to poor factor loading.

We are interested in knowing about what influences your wine purchases. Please read each statement below and rate how much you agree with each on a scale of 1 to 5.

	Strongly disagree (1)	(2)	Neutral (3)	(4)	Strongly agree (5)
I am willing to spend extra time shopping in order to get the cheapest possible price on wines of the same quality.	❍	❍	❍	❍	❍
Being a smart shopper for wine is worth the extra time it takes.	❍	❍	❍	❍	❍
Because of my personal values, I feel smart shopping for wine ought to be important to me.	❍	❍	❍	❍	❍
**Sales on wine excite me.	❍	❍	❍	❍	❍
**For expensive wine I spend a lot of time and effort making my purchase decision, since it is important to get the best deal.	❍	❍	❍	❍	❍
**I view the purchasing of wine as a minor decision, not relevant to my main concerns in life.	❍	❍	❍	❍	❍

**Deleted from final scale due to poor factor loading.

REFERENCES

REFERENCES

Adamowicz, W., Louviere, J., & Williams, M. (1994). Combining revealed and stated preference methods for valuing environmental amenities. *Journal of Environmental Economics and Management, 26,* 271-292.

Adamowicz, W., Louviere, J., & Swait, J. (1998) Introduction to attribute-based stated choice methods. Report to NOAA, Resource Valuation Brach, Damage Assessment Center.

Ali, H. H., & Nauges, C. (2007). The pricing of experience goods: The example of en primeur wine. *American Journal of Agricultural Economics*, *89*(1), 91-103.

Ali, H. H., Lecocq, S., & Visser, M. (2008). The impact of gurus: Parker grades and en primeur wine prices. *The Economic Journal*, *118*(529), F158-F173.

Alonso, A. & O'Neill, M. (2009). Wine tourism in Spain: The case of three wine regions. *Tourism, 57*(4), 405-420.

Appleby, C., Constanigro, M., Thilmany, D., & Menke, S. (2012). Measuring consumer willingness to pay for low-sulfite wine: A conjoint analysis. American Association of Wine Economics, Working Paper No. 117.

Areni, C., & Kim, D. (1993). The influence of background music on shopping behavior: Classical versus top-forty music in a wine story. *Advances in Consumer Research, 20,* 336-340.

Asero, V., & Tomaselli, V. (2015). Research note: Analyzing tourism demand in tourist districts: The case of Sicily. *Tourism Economics*, *21*(5), 1111-1119.

Avery, C. & Chevalier, J. (1999). Identifying investor sentiment from price paths: The case of football betting. *Journal of Business, 72,* 493-521.

Barber, N. (2012). Consumers' intention to purchase environmentally friendly wines: A segmentation approach. *International Journal of Hospitality & Tourism Administration*, *13*(1), 26-47.

Barber, N., Almanza, B., & Dodd, T. (2008). Wine consumers self confidence and product involvement. *Journal of Foodservice Business Research, 11*(1), *45-64.*

Barber, N., Taylor, D.C., & Strick, C. (2009). Wine consumers' environmental knowledge and attitudes: Influence on willingness to purchase. *International Journal of Wine Research, 1,* 59-72.

Barbieri, C. (2013). Assessing the sustainability of agritourism in the US: A comparison between agritourism and other farm entrepreneurial ventures. *Journal of Sustainable Tourism, 21*(2), 252-270.

Batt, P., & Dean, A. (2000). Factors influencing the consumer's decision. *Australia and New Zealand Wine Industry Journal Marketing Supplement, 15*(4), 34-41.

Bauwens, L. & Ginsburgh, V. (2000). Art experts and auctions: Are pre-sale estimates unbiased and fully informative? *Louvain Economic Review, 66,* 131-144.

Bazoche, P., Deola, C., & Soler, L.G. (2008). An experimental study of wine consumers' willingness to pay for environmental characteristics. 12th Congress of the European Association of Agricultural Economics.

Beatty, S.E., Kahle, L.R., & Homer, P. (1988). The involvement-commitment model: Theory and implications. *Journal of Business Research, 16*(2), 149-167.

Becker, G. M., DeGroot, M. H., & Marschak, J. (1964). Measuring utility by a single-response sequential method. *Behavioral Science, 9*(3), 226. Retrieved from http://ezproxy.msu.edu.proxy2.cl.msu.edu/login?url=http://search.proquest.com.proxy2.cl.msu.edu/docview/1301267676?accountid=12598

Bennett, J., & Adamowicz, V. (2001). Some fundamentals of environmental choice modeling. In J. Bennett & R. Blamey (Eds.). The choice modeling approach to environmental valuation, 37-69. MA: MIT Press.

Bessiere, J. (1998). Local development and heritage: Traditional food and cuisine as tourist attractions in rural areas. *Sociologia Ruralis, 38,* 21-34.

Beverland, M. (2006). The "real thing": Branding authenticity in the luxury wine trade. *Journal of Business Research, 59*(2), 251-258.

Bliemer, M. & Rose, J. (2011). Experimental design influences on stated choice outputs: An empirical study in air travel choice. *Transportation Research Part A: Policy and Practice, 45*(1), 63-79.

Bosworth, R., Bailey, D., & Curtis, K. (2015). Consumer willingness to pay for local designations: Brand effects and heterogeneity at the retail level. *Journal of Food Product Marketing, 21*, 274-292.

Bowen, R.L., Cox, L.J., & Fox, M. (1991). The interface between tourism and agriculture. *The Journal of Tourism Studies, 2*(2), 43-54.

Boxall, P., Adamowicz, W., Swait, J., Williams, M., & Louviere, J. (1996). A comparison of stated preference methods for environmental valuation. *Ecological Economics, 18*, 243-253.

Brown, G., & Getz, D. (2005). Linking wine preference to the choice of wine tourism destinations. *Journal of Travel Research, 43*, 266-276.

Brown, G., Havitz, M., & Getz, D. (2007). Relationship between wine involvement and wine-related travel. *Journal of Travel & Tourism Marketing, 21*(1), 31-46.

Brown, L., & Hershey, C. (2012). Agritourism in Wisconsin from the consumer perspective. Center for Community & Economic Development. Retrieved from https://www.uvm.edu/~snrvtdc/agtour/publications/Wisconsin_Agritourism_Survey_Report_6-25-2012.pdf

Brugoralas Molla-Bauza, M., Martinez-Carrasco Martinez, L., Martinez Pveda, A., & Rico Perez, M. (2005). Determination of the surplus that consumers are willing to pay for an organic wine. *Spanish Journal of Agricultural Research, 3*(1), 43-51.

Bruwer, J., & Alant, K. (2009). The hedonic nature of wine tourism consumption: an experiential view. *International Journal of Wine Business Research, 21*(3), 235-257.

Bruwer, J., Burrows, N., Chaumont, S., Li, E., & Saliba, A. (2013). Consumer involvement and associated behaviour in the UK high-end retail off-trade wine market. *The International Review of Retail, Distribution and Consumer Research, 24*(2), 145-165.

Bruwer, J., Lesschaeve, I., & Campbell, B. (2012). Consumption dynamics and demographics of Canadian wine consumers: Retailing insights from the tasting room channel. *Journal of Retailing and Consumer Services, 19,* 45-58.

Bruwer, J., & Li, E. (2007). Wine-related lifestyle (WRL) market segmentation: Demographic and behavioural factors. *Journal of Wine Research, 18*(1), 19-34.

Bruwer, J., & Thach, L. (2013). Wine tourists' use of sources of information when visiting a USA wine region. *Journal of Vacation Marketing, 19*(3), 221-237.

Busby, B., & Rendle, S. (2000). The transition from tourism on farms to farm tourism. *Tourism Management, 21,* 635-642.

Byrd, E. T., Canziani, B., (Jerrie) Hsieh, Y., Debbage, K., & Sonmez, S. (2016). Wine tourism: Motivating visitors through core and supplementary services. *Tourism Management*, *52*19-29.

Carlsen, J., Getz, D., & Ali-Knight, J. (2001). The environmental attitudes and practices of family businesses in the rural tourism and hospitality sectors. *Journal of Sustainable Tourism, 9*(4), 281-297.

Celsi, R., & Olson, J. (1988). The role of involvement in attention and comprehensive processes. *Journal of Consumer Research, 15*(2), 210-224.

Chaney, I. (2000), External search effort for wine. *International Journal of Wine Marketing, 12*(2), 5-21.

Charters, S., & Ali-Knight, J. (2002). Who is the wine tourist? *Tourism Management, 23*, 311-319.

Charters, S., Lockshin, L., & Unwin, T. (1999). Consumer responses to wine bottle back labels. *Journal of Wine Research, 10*(3), 183-195.

Charters, S., & Pettigrew, S. (2006). Product involvement and the evaluation of wine quality. *Qualitative Market Research: An International Journal, 9*(2), 181-193.

Chiu, T., Fang, D., Chen, J., Wang, Y., Jeris, C. (2001). A robust and scalable clustering algorithm for mixed attributes in large database environment. In: Proceedings of the 7th ACM SIGKDD International Conference in Knowledge Discovery and Data Mining, p. 263-268. Association for Computing Machinery, San Francisco, CA.

Chossat, V. & Gergaud, O. (2003). Expert opinion and gastronomy: The recipe for success. *Journal of Cultural Economics, 27,* 127-141.

Chrea, C., Melo, L., Evans, G., Forde, C., Delahunty, C., & Cox, D.N. (2011). An investigation using three approaches to understand the influence of extrinsic product cues on consumer behavior: An example of Australian wines. *Journal of Sensory Studies, 26,* 13-24.

Clark, G. & Chabrel, M. (2007). Measuring integrated rural tourism. *Tourism Geographies, 9*(4), 371-386.

Cohen, J.B. (1983). Involvement and you: 1000 Great ideas. *Advances in Consumer Research, 10*(1), 325-328.

Combris, P., Lange, C., & Issanchou, S. (2001). Assessing the effect of information on the reservation price for champagne: Second-price compared to BDM auctions with unspecified price bounds. *Oenometrics VIII*, May 21-22, Napa Valley, CA.

Defrancesco, E., Orrego, J. E., & Gennari, A. (2012). Would 'New World' wines benefit from protected geographical indications in international markets? The case of Argentinean Malbec. *Wine Economics and Policy, 1*(1), 63-72.

Didier, T., & Lucie, S. (2008). Measuring consumer's willingness to pay for organic and fair trade products. *International Journal of Consumer Studies, 32,* 479-490.

Dillman, D.A. (2000). *Mail and internet surveys: The tailored design method* (2nd ed.). New York, NY: John Wiley and Sons.

Dimara, E., & Skuras, D. (2005). Consumer demand for informative labeling of quality food and drink products: A European Union case study. *Journal of Consumer Marketing, 22*(2), 90-100.

Dodd, T. & Gustafson, A.W. (1997). Product, environmental, and service attributes that influence consumer attitudes and purchases at wineries. *Journal of Food Products Marketing, 4*(3), 41-59.

Dodds, W., Monroe, K., & Grewal, D. (1991). Effects of price, brand, and store information on buyers' product evaluations. *Journal of Marketing Research, 28*(3), 307-319.

Enteleca Research and Consultancy. (2001). *Tourists attitudes towards regional and local food*. Richmond upon Thames, Enteleca Research and Consultancy.

Everett, S., & Aitchison, C. (2008). The role of food tourism in sustaining regional identity: A case study of Cornwall, South West England. *Journal of Sustainable Tourism, 16*(2), 150-167.

Famularo, B., Bruwer, J., & Li, E. (2010). Region of origin as choice factor: Wine knowledge and wine tourism involvement influence. *International Journal of Wine Business Research, 22*(4), 362-385.

Feldmann, C. & Hamm, U. (2015). Consumers' perceptions and preferences for local food: a review. *Food Quality and Preference*, *40*,152-164.

Franson, P. (2016). Number of United States wineries reaches 8,702. *Wine Business Monthly*. Retrieved from: https://www.winebusiness.com/wbm/?go=getArticleSignIn&dataId =163894

Garcia-Yi, J. (2014). Identification of dried native chili markets in the international tourism sector in Peru: An open-ended contingent valuation study. *Sustainability*, *6*(2), 1093-1106. doi:10.3390/su6021093

Getz, D., & Brown, G. (2006). Critical success factors for wine tourism regions: A demand Analysis. *Tourism Management, 27*, 146-158.

Gill, D., Byslma, B., & Ouschan, R. (2007). Customer perceived value in a cellar door visit: The impact on behavioural intentions. *International Journal of Wine Business Research, 19*(4), 257-275.

Gil, J., & Sánchez, M. (1997). Consumer preferences for wine attributes: A conjoint approach. *British Food Journal, 99*(1), 3-11.

Ginon, E., Chabanet, C., Combris, P., & Issanchou, S. (2014). Are decisions in a real choice experiment consistent with reservation prices elicited with BDM 'auction'? The case of French baguettes. *Food Quality and Preference, 31,* 173-180.

Gluckman, R. (1990). A consumer approach to branded wines. *European Journal of Marketing, 24*(4), 27-46.

Goldsmith, R.E., & Emmert, J. (1991). Measuring product category involvement: A multitrait-multimethod study. *Journal of Business Research, 23*, 363-371.

Gómez, M., Lopez, C., & Molina, A. (2015). A model of tourism destination brand equity: The case of wine tourism destinations in Spain. *Tourism Management*, *51*210-222.

Goodman, S. (2009). An international comparison of retail consumer wine choice. *International Journal of Wine Business Research, 21*(1), 41-49.

Govindasamy, R., & Kelley, K. (2014). Agritourism consumers' participation in wine tasting events: An economic analysis. *International Journal of Wine Business Research, 26*(2), 120-138.

Gross, M., & Brown, G. (2008). An empirical structural model of tourists and places: Progressing involvement and place attachment into tourism. *Tourism Management, 29*, 1141-1151.

Hackett, N. (1998). *Vines, wines, and visitors: A case study of agricultural diversification into winery tourism.* Ann Arbor, MI: UMI Dissertation Services.

Hall, C.M., Johnson, G., Cambourne, B., Macionis, N., Mitchell, R., & Sharples, L., (2000). In C.M. Hall, L. Sharples, B. Cambourne, & N. Macionix (Eds.), *Wine tourism around the world: Development, management and markets*. Oxford: Butterworth-Heinemann.

Hanemann, W. (1984). Welfare evaluations in contingent valuation experiments with discrete responses. *American Journal of Agricultural Economics, 66*, 332-341.

Hanley, N., Mourato, S., & Wright, R.E. (2001). Choice modelling approaches: A superior alternative for environmental valuation? *Journal of Economic Surveys, 15*(3), 435-462.

Hauck, R. (1991). Buying behavior and attitudes towards wine-findings of a field survey among younger consumers. *Acta Horticulturae, 295*, 127-132.

Henderson, J. (2004). Food as a tourism resource: A view from Singapore. *Tourism Recreation Research, 29*(3), 69-74.

Henneberry, S. R., & Armbruster, W. A. (2003). Emerging roles for food labels: Inform, protect, persuade. *Journal of Food Distribution Research, 34*, 62-69.

Holecek, D., & McCole, D. (2014). Wine consumer market surveys: 15 Michigan tasting room visitor survey and 6 state random household member survey. Retrieved from http://northerngrapesproject.org/wp-content/uploads/2014/02/WineConsumerSurveys.pdf

Holecek, D., McCole, D., & Lee, J. (2016). Tasting room visitor surveys: Experience with and enjoyment of cold-hardy wines. *Northern Grapes News, 5*(2), 8-9. Retrieved from

http://northerngrapesproject.org/wp-content/uploads/2016/05/NG-News-Vol5-I2-May-2016.pdf

Hollebeek, L., Jaeger, S., Brodie, R., Balemi, A. (2007). The influence of involvement on purchase intention for new world wine. *Food Quality and Preference, 18*, 1033-1049.

Houston, M.J., & Rothschild, M. (1978). A paradigm for research on consumer involvement. *Unpublished Working Paper*, Madison, WI: University of Wisconsin.

Ilbery, B., Saxena, G. and Kneafsey, M. (2007). Exploring tourists and gatekeepers' attitudes towards integrated rural tourism in the England/Wales border region. *Tourism Geographies*, *9*(4), 441–468.

Jackson, D., Gillaspy, Jr., A., & Purc-Stephenson, R. (2009). Reporting practices in confirmatory factor analysis: An overview and some recommendations. *Psychological Methods, 14*(1), 6-23.

Jarvis, W., Rungie, C., & Lockshin, L. (2007). Revealed preference analysis of red wine attributes using polarisation. *International Journal of Wine Business Research, 19*(2), 127-138.

Jenster, P., & Jenster, L. (1993). The European wine industry. *International Journal of Wine Marketing, 5*(1), 30-73.

Johnson, R., & Bruwer, J. (2007). Regional brand image and perceived wine quality: The consumer perspective. *International Journal of Wine Business Research, 19*(4), 276-297.

Kelley, H., Van Rensburg, T. M., & Jeserich, N. (2016). Determinants of demand for recreational walking trails in Ireland. *Tourism Management*, *52,* 173-186.

Keown, C., & Casey, M. (1995). Purchasing behaviour in the Northern Ireland wine market. *British Food Journal, 97*(1), 17-20.

Kim, H., & Bonn, M. A. (2015). The moderating effects of overall and organic wine knowledge on consumer behavioral intention. *Scandinavian Journal of Hospitality & Tourism*, *15*(3), 295-310.

Kneafsey, M. (2000). Tourism, place identities and social relations in the European rural periphery. *European Urban and Regional Studies, 7*(1), 35-50.

Kotler, P., & Keller, K. (2006). *Marketing Management* (12 ed.). Englewood Cliffs, NJ: Pearson Prentice Hall.

Lancaster, K. (1966). A new approach to consumer theory. *Journal of Political Economy, 74,* 132-157.

Lane, B. (1994). Sustainable rural tourism strategies: A tool for development and conservation. *Journal of Sustainable Tourism, 2*(1/2), 102-111.

Lang, M., Stanton, J., & Qu, Y. (2014). Consumers' evolving definition and expectations for local foods. *British Food Journal, 116*(11), 1808-1820.

Lawson, S.R., & Manning, R.E. (2002). Tradeoffs among social, resource, and management attributes of the Denali wilderness experience: A contextual approach to normative research. *Leisure Sciences, 24*, 297-312.

Laurent, G., & Kapferer, J. (1985). Measuring consumer involvement profiles. *Journal of Marketing Research, 22*(1), 41-53.

Lecocq, S., Magnac, T., Pichery, T., & Visser, M. (2005). The impact of information on wine auction prices: Results of an experiment. *Annales D'Économie Et De Statistique, (77)*, 37-57.

Lockshin, L., & Corsi, A. (2012). Consumer behaviour for wine 2.0: A review since 2003 and future directions. *Wine Economics and Policy, 1,* 2-23. Louviere, J., Hensher, D., & Swait, J. (2000). *Stated choice Methods: Analysis and applications.* Cambridge, UK: Cambridge University Press.

Lockshin, L., & Hall, J. (2003). Consumer purchasing behaviour for wine: what we know and where we are going. In: *Proceedings of the International Wine Marketing Colloquium*. Adelaide.

Lockshin, L., Jarvis, W., d'Hauteville, F., & Perrouty, J-P. (2006). Using simulations from discrete choice experiments, to measure consumer sensitivity to brand, regions, price, and awards in wine choice. *Food Quality and Preference, 17,* 166-178.

Lockshin, L., Quester, P., & Spawton, T. (2001). Segmentation by Involvement or Nationality for global retailing: A cross-national comparative study of wine shopping behaviours. *Journal of Wine Research, 12*(3), 223-236.

Lockshin, L., Rasmussen, M., & Cleary, F. (2000). The nature and roles of wine brand. *Australia and New Zealand Wine Industry Journal, 15*(4), 17-24.

Lockshin, L., & Spawton, T. (2001). Using involvement and brand equity to develop wine tourism strategy. *International Journal of Wine Marketing, 13*(1), 72-81

Lockshin, L., Spawton, A., & Macintosh, G. (1997). Using product, brand and purchasing involvement for retail segmentation. *Journal of Retailing and Consumer Services, 4*(3), 171-183.

Loureiro, M.L. (2003). Rethinking new wines: Implications of local and environmentally friendly labels. *Food Policy, 28,* 547-560.

Louviere, J.J., Hensher, D.A., Swait, J. (2000). *Stated choice methods: Analysis and application.* Cambridge: Cambridge University Press.

Louviere, J., & Timmermans, H. (1990). Stated preference and choice models applied to recreation research: A review. *Leisure Sciences, 12,* 9-32.

Lusk, J. (2003). Using experimental auctions for marketing applications: A discussion. *Journal of Agricultural and Applied Economics, 35*(2), 349-360.

Lusk, J.L., & Fox, J.A. (2003). Value elicitation in retail and laboratory environments. *Economics Letters, 79,* 27-34.

Lusk, J.L., Fox, J.A., Schroeder, T.C., Mintert, J., & Koohmaraie, M. (2001). In-Store valuation of steak tenderness. *American Journal of Agricultural Economics*, *83*(3), 539-550.

Lusk, J., & Shogren, J. (2007). Experimental auctions: Methods and applications in economic and marketing research. Cambridge, NY: Cambridge University Press.

Marshall, R., Cordano, M., & Silverman, M. (2005). Exploring individual and institutional drivers of proactive environmentalism in the US wine industry. *Business Strategy and the Environment, 14,* 92-109.

Marzo-Navarro, M., & Pedraja-Iglesias, M. (2010). Are there different profiles of wine tourists? An initial approach. *International Journal of Wine Business Research, 22*(4), 349-361.

McCole, D., & Holecek, D. (2013). Research update: Tasting room visitors' wine purchase and consumption. *The Northern Grapes News, 2*(3), 6-7.

McCole, D.T., Holecek, D.F., Lee, J., & Eustice, C.L. (2018). Understanding wine tourists in emerging wine regions: An examination of tasting room visitors in the Great Lakes region of the U.S. Under review *Tourism Review International.*

McFadden, D. (1974). Conditional logit analysis of qualitative choice behaviour in Zarembka, P. (ed.), Frontiers in Econometrics, New York: Academic Press, 105-42.

McGehee, N.G., & Kim, K. (2004). Motivation for agri-tourism entrepreneurship. *Journal of Travel Research, 43,* 161-170.

McQuarrie, E.F., & Munson, J.M. (1986). The Zaichkowsky personal involvement inventory: Modification and extension in *Advances in Consumer Research* (14th ed.). M. Wallendorf and P. Anderson (Eds.), Provo UT: Association for Consumer Research, 14, 36-40.

Mitchell, R., & Hall, C.M., (2004). The post-visit consumer behavior of New Zealand winery visitors. *Journal of Wine Research, 15*(1), 39-49.

Mitchell, R., & Hall, M. (2006). Wine tourism research: The state of play. *Tourism Review International, 9*(4), 307-332.

Mitchell, R., Hall, C.M., & McIntosh, A. (2000). Wine tourism and consumer behavior. In C.M. Hall, L. Sharples, B. Cambourne, & N. Macionis (Eds.). *Wine and Tourism from Around the World.* London: Butterworth Heinemann, 115-135.

Mittal, B., & Lee, B. (1989). A causal model of consumer involvement. *Journal of Economic Psychology, 10,* 363-389.

Mooi, E., & Sarstedt, M. (2011). Cluster analysis: A concise guide to market research (pp. 237-284). Berlin, Heidelberg: Springer.

Mueller, S., Lockshin, L., Saltman, Y., & Blanford, J. (2010). Message on a bottle: The relative influence of wine back label information on wine choice. *Food Quality and Preference, 21*, 22–32.

Mueller, S., & Remaud, H. (2013). Impact of corporate social responsibility claims on consumer food choice: a cross-cultural comparison. *British Food Journal, 115*(1), 142-166.

Murray, A., & Kline, C. (2015). Rural tourism and the craft beer experience: factors influencing brand loyalty in rural North Carolina, USA. *Journal of Sustainable Tourism*, *23*(8/9), 1198-1216.

Napa Valley Visitor Profile. (2016). Visit Napa Valley: 2016 Visitor profile final report of findings. Retreived from https://www.visitnapavalley.com/about-us/research/

Nella, A., & Christou, E. (2014). Segmenting wine tourists on the basis of involvement with wine. *Journal of Travel & Tourism Marketing, 31*(7), 783-798.

Noussair, C., Robin, S., & Ruffieux, B. (2004). Do consumers really refuse to buy genetically modified food? *The Economic Journal, 114*, 102-120.

O'Cass, A. (2000). An assessment of consumers' product, purchase decision, advertising and consumption involvement in fashion clothing. *Journal of Economic Psychology, 21*, 545-576.

Oh, C.O., Ditton, R., Genter, B., & Riechers. (2005). A stated preference choice approach to understanding angler preferences for management options. *Human Dimensions of Wildlife, 10*(3), 173-186.

Ohanian, R., & Tashchian, A. (1992). Consumers' shopping effort and evaluation of store image attributes: The roles of purchasing involvement and recreational shopping interest. *Journal of Applied Business Research, 8*(4), 40-49.

Orth, U. & Krska, P. (2002). Quality signals in wine marketing: The role of exhibition awards. *International Food and Agribusiness Management Review, 4,* 385-397.

Pearmain, D. (1991). *State preference techniques: A guide to practice*. Steer Davies & Gleave Ltd., & Hague Consultancy Group. Richmond, Surrey: Steer Davies & Gleave Ltd.

Pearson, D., Henryks, J., Trott, A., Jones, P., Parker, G., Dumaresq, D., & Dyball, R. (2011). Local food: Understanding consumer motivations in innovative retail formats. *British Food Journal, 113*(7), 886-899.

Pena, A., Jamilena, D., & Molina, M. (2012). The perceived value of the rural tourism stay and its effect on rural tourist behavior. *Journal of Sustainable Tourism, 20*(8), 1045-1065.

Phillip, S., Hunter, C., & Blackstock, K. (2010). A typology for defining agritourism. *Tourism Management, 31,* 754-758.

Piriyapada, S., & Wang, E. (2015). Modeling willingness to pay for coastal tourism resource protection in Ko Chang Marine National Park, Thailand. *Asia Pacific Journal of Tourism Research*, *20*(5), 515-540.

Plummer, R., Telfer, D., Hashimoto, A., & Summers, R. (2005). Beer tourism in Canada along the Waterloo-Wellington ale trail. *Tourism Management, 26*(3), 447-458.

Punj, G. & W. Steward, D. (1983). Cluster analysis in marketing research: Review and suggestions for application. *Journal of Marketing Research, 20*, 134-148.

Quester, P., & Smart, J. (1998). The influence of consumption situation and product involvement over consumers' use of product attribute. *The Journal of Consumer Marketing, 15*(3), 220-238.

Quester, P.G., & Smart, J. (1998). Product involvement in consumer wine purchases: its demographic determinants and influence on choice attributes. *International Journal of Wine Marketing, 8*(3), 37-56.

Rasmussen, M., & Lockshin, L. (1999). Wine choice behaviour: The effect of regional branding. *International Journal of Wine Marketing, 11*(1), 36-46.

Reeder, R.J., & Brown, D.M. (2005). Recreation, tourism, and rural well-being. U.S. Department of Agriculture, Economic Research Service, Economic Research Report Number 7.

Rose, J.M., & Bliemer, M.C.J. (2009). Constructing efficient stated choice experimental designs. *Transport Reviews, 29*(5), 587-617.

Saayman, M., Krugell, W. F., & Saayman, A. (2016). Willingness to pay: Who are the cheap talkers?. *Annals of Tourism Research*, *56,* 96-111. doi:10.1016/j.annals.2015.11.009

Schäufele, I. & Hamm, U. (2017). Consumers' perceptions, preferences and willingness-to-pay for wine with sustainability characteristics: A review. *Journal of Cleaner Production, 147*, 379-394.

Schmit, T.M., Rickard, B.J., & Taber, J. (2013). Consumer valuation of environmentally friendly production practices in wine, considering asymmetric information and sensory effects. *Journal of Agricultural Economics, 64*(2), 483-504.

Schreiber, J.B., Stage, F.K., King, J., Nora, A., & Barlow, E.A. (2006). Reporting structural equation modeling and confirmatory factor analysis results: A review. *The Journal of Educational Research, 99*(6), 323-337.

Shapiro, M., & Gomez, M.I. (2014). Customer satisfaction and sale performance in wine tasting rooms. *International Journal of Wine Business Research, 26*(1), 45-60.

Shleifer, A. (1986). Do demand curves for stocks slope down? *Journal of Finance, 41,* 579- 590.

Shogren, J.F., Shin, S. Y., Hayes, D. J., & Kliebenstein, J.B. (1994). Resolving differences in willingness to pay and willingness to accept. *American Economic Review, 84*, 255-270.

Sims, R. (2009). Food, place and authenticity: Local food and the sustainable tourism experience. *Journal of Sustainable Tourism*, *17*, 321–336.

Singh, J. (1990). A typology of consumer response styles. *Journal of Retailing, 66*(1), 57-99.

Slama, M., & Tashchian, R. (1985). Selected socioeconomic and demographic characteristics associated with purchasing involvement. *Journal of Marketing, 49*, 72-82.

Sparks, B. (2007). Planning a wine tourism vacation? Factors that help to predict tourist behavioural intentions. *Tourism Management, 28*, 1180-1192.

Sparks, B.A., Roberts, L., Deery, M., Davies, J., & Brown, L. (2005). Good living tourism: Lifestyle aspects of food and wine tourism. Technical Report, CRC for Sustainable Tourism, Brisbane, Australia.

Spawton, T. (1991). Of wine and live asses: An introduction to the wine economy and state of wine marketing. *European Journal of Wine Marketing, 25*(3), 1-48.

Tagbata, D. & Sirieix, L. (2008). Measuring consumer's willingness to pay for organic and Fair Trade products. *International Journal of Consumer Studies, 32*, 479–490

Tanford, S., Montgomery, R., & Hertzman, J. (2012). Towards a model of wine event loyalty. *Journal of Convention & Event Tourism*, *13*(2), 77-99. doi:10.1080/15470148.2012.673246

Telfer, D.J. (2001). Strategic alliances along the Niagara Wine Route. *Tourism Management, 22*, 21-30.

Thaler, R. (2008). Mental accounting and consumer choice. *Marketing Science, 27*(1), 15-25.

Tribe, J. (2001). Research paradigms and tourism curriculum. *Journal of Travel Research, 39,* 442-448.

TTB, Alcohol and Tobacco Tax and Trade Bureau. (2017, July 22). *Wine Appellations of Origin.* Retrieved from https://www.ttb.gov/appellation/index.shtml#requirement

Tuck, B., & Gartner, W. (2014). Vineyards and wineries in Wisconsin. Retrieved from https://www.extension.umn.edu/community/economic-impact-analysis/reports/docs/2014-Economic-Contribution-Vineyards-Wineries-North.pdf

Urry, J. (1990). *The tourists gaze: Leisure and travel in contemporary societies.* London: Sage.

Vecchio, R. (2013). Determinants of willingness-to-pay for sustainable wine: Evidence from experimental auctions. *Wine Economics and Policy, 2*, 85-92.

Vickrey, W. (1961), Counterspeculation, auctions, and competitive sealed tenders. *The Journal of Finance, 16*, 8–37. doi:10.1111/j.1540-6261.1961.tb02789.x.

Vines & Wines (2017). Wine industry metrics. Retrieved from https://www.winesandvines.com/template.cfm?section=widc&widcDomain=wineries

Wargenau, A., & Che, D. (2006). Wine tourism development and marketing strategies in Southwest Michigan. *International Journal of Wine Marketing, 18*(1), 45-60.

Weaver, D.B., & Fennell, D.A. (1997). Rural tourism in Canada: The Saskatchewan vacation farm operator as entrepreneur. In S.J. Page, & D. Getz, *The business of rural tourism: International perspectives* (pp.77-92). London: International Thomson Business Press.

Wicks, B., & Merrett, C. (2003). Agritourism: An economic opportunities for Illinois. *Illinois Institute for Rural Affairs, 14*(9), 1-8.

Williams, T.G. (1988). Purchasing involvement and direct marketing response. In *Proceedings of the 1988 Annual Meeting of the Western Region Decision Science Institute.* V. Lyman Gallup & Kailua-Kona (Eds.), 17, 197-199. HI: The Institute.

Wine Institute. (2016). The economic impact of the California wine and wine grape industry. Retrieved from http://www.wineinstitute.org/resources/statistics

Wine Institute. (2017). Wine institute releases results of new California wine tourism survey. Retrieved from htttp://www.wineinstitute.org/resources/pressroom/09212017

Wine Vines Analytics. (2017). Winery Database. Retrieved from https://www.winesandvines.com/template.cfm?section=widc&widcDomain=wineries

Wolf, E. (2014). Introduction to the food tourism industry. In J. Bussell, C. Campbell, W. Lange-Faria, & K. McAree (Eds.), *Have fork will travel: A practical handbook for food & drink tourism professionals* (pp. 11-12). Portland, OR: World Food Travel Association.

Wonnocott, T., & Wonnocott, R. (1990). *Introductory statistics.* New York, NY: John Wiley & Sons.

Youngjoon, C., Won Seok, L., Choong-Ki, L., & Dattilo, J. (2015). Valuation of mudflats in nature-based tourism: inclusion of perceived value of festival experiences. *Tourism Economics*, *21*(4), 833-851.

Zaichkowsky, J.L. (1985). Measuring the involvement construct. *Journal of Consumer Research, 12*(3), 341-352.

Zaichkowsky, J.L. (1988). Involvement and the price cue. *Advances in Consumer Research, 15*(1), 323-327.

Zeithaml, V. (1988). Consumer perceptions of price, quality, and value: A means-end model and synthesis of evidence. *Journal of Marketing, 52,* 2-22.