Federal-State Marketing Improvement Program
Final Performance Report
For the Period of October 1, 2012 to March 31, 2016

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Recipient Name: **The Pennsylvania State University**
Project Title: **Developing Wine Marketing Strategies for the Mid-Atlantic Region**
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An Outline of the Issue or Problem:

Wine consumption in the United States (U.S.) is well recognized as being an integral part of the mainstream culture and is enjoyed by many on a daily basis (Wine Intelligence LTD, 2011). From 1999 to 2010 the number of wineries in the U.S. grew from 2,688 to 6,668 (Hodgen, 2011). The number of wineries reported in November 2010 was 6,785, a 9% increase in the number reported the previous November. Though the growth rate in the number of Mid-Atlantic wineries has matched the U.S. trend, fewer than 7% of all wineries in 2010 were located in three Mid-Atlantic states: New Jersey (45), New York (255), and Pennsylvania (144). Grape and wine production are important industries for these states. New York and Pennsylvania ranked third (Whetstone et al., 2011) and seventh (Pennsylvania Winey Association, 2012), respectively, in regards to wine grape production (native and hybrids account for 75% of wine grape production in Pennsylvania, Chien, 2011; and 72% for New York in 2006, New York Agricultural Statistics Service, 2006); and according to end of year data for 2010, bulk wine production for the three states was just under 4% with New York wineries producing 93% of this allotment. As these industries continue to grow they will create numerous job opportunities and continue to greatly impact other industries such as food service, hospitality and tourism (Storchmann, 2010).

Based on 2010 U.S. Census data, New York had the third largest population (19.4 million) in the country, with Pennsylvania (12.7 million) ranked 6th and New Jersey (8.8 million) 11th. In total, the population of the three states was roughly 40.9 million, 13% of the total U.S. population, and contained two of the most populated metropolitan areas (Mackun and Wilson, 2011). U.S. Census projections, based on 2000 data, suggest that the collective population of these three states will increase by nearly 2.4 million people by 2030 (U.S. Census Bureau, 2005).

The population of the region can certainly appeal to wineries; however, population should not be the sole consideration when deciding where and how to market wine. According to the 2010 Wine Market Council's Consumer Tracking Study (Wine Market Council, n.d.), just over a third (34.3%) of U.S. adults reported drinking wine with a per capita adult consumption of 3.6 gallons (Hodgen, 2011). Consumption frequency can be segmented even further into those who consume wine at least once a week (Core wine drinkers, 20.4% of the U.S. adult population) and those who consume wine less frequently (Marginal wine drinker, 13.9%). Preferences, motivations, how wine is purchased, how they learn about wine, membership in wine clubs, among other attributes differ between the two groups. With 91% of all wine consumed being purchased by Core wine drinkers it would be prudent to understand their needs and wants while also investigating the likelihood of converting Marginal wine drinkers to Core drinkers.

With experts projecting that wine production will increase, bloggers alerting followers about "new" wine regions, and consumer exposure and interest in wine ever changing, it is only prudent for industry members to better understand their clientele, why and when they consume wine, varietal preferences, how they learn about wine, and where and how often they purchase wine. Responses to these and other questions provide the foundation for more successful marketing and promotional efforts and ones that consider the consumers' wants and desires, rather than an industry directed approach. Though industry and consumer wine consumption data is publically available on a national level, consumer data for the Mid-Atlantic is not readily available. This is a true hindrance for stakeholders attempting to initiate or amend wine marketing and promotional strategies.

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Hodgen, D.A. 2011 U.S. wine industry – 2011. U.S. Department of Commerce. Retrieved Jan 11, 2012, http://ita.doc.gov/td/ocg/wine2011.pdf

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Goals and Objectives:

The overall goal of this project was to document consumer purchasing and consumption of wine in the Mid-Atlantic (New Jersey, New York, and Pennsylvania) and examine the effects of different promotion and marketing efforts on consumption of Mid-Atlantic wines. Internet focus group sessions and surveys were used to investigate the following objectives: quantify consumer wine purchases and preferred varietals; identify demographics and behaviors that describe Mid-Atlantic wine purchasers; understand how consumers learn about wines and the role of social media; evaluate Mid-Atlantic wine marketing and promotional strategies; and determine consumer reaction to marketing and promotional efforts that provide a platform for individual state wine industries to differentiate their wines.

Contribution of Project Partners:

Principal Investigators

- Dr. Kathleen Kelley, Professor, Horticultural Marketing and Business Management, Plant Science Department, The Pennsylvania State University
    - Dr. Kelley was the project leader. She gathered input from growers as to what topics would be investigated in Survey 2 through 4. She worked with the other project partners and coordinated their input on survey questions, provided updates on analysis, and gathered their edits on peer-reviewed manuscripts and abstracts. She was the graduate students' thesis advisor and assisted the graduate research assistants with analyzing data and reporting findings, as well as coauthored blogs and podcasts based on data. She delivered presentations to a variety of audiences in three targeted states in the Mid-Atlantic region.

- Dr. Jeffrey Hyde, Professor, Agricultural Economics, The Pennsylvania State University
    - Dr. Hyde worked with the other PIs to develop and implement the survey and to analyze and interpret statistical results. He has reviewed manuscripts and presentation abstract submitted for peer-review. He was also a member of Abigail Miller's thesis committee.
- Ms. Denise Gardner, Extension Enologist, Department of Food Science, The Pennsylvania State University
    - Ms. Gardner assisted with selecting the correct terminology for use in surveys and she also identified additional survey topics and questions that would benefit the wine industry in the three Mid-Atlantic states. She has reviewed manuscripts and presentation abstract submitted for peer-review. She was also a member of Abigail Miller's thesis committee and is currently serving on Jennifer Zelinskie's thesis committee.

Collaborator

- Dr. Brad Rickard, Associate Professor, Charles H. Dyson School of Applied Economics and Management, Cornell University
    - Dr. Rickard helped to develop questions that were used the surveys and with the interpretation of the results. He has reviewed manuscripts and a presentation abstract submitted for peer-review.

Consultants

- Dr. Ramu Govindasamy, Professor, Department of Agricultural, Food and Resource Economics, Rutgers University
    - Dr. Govindasamy assisted with survey preparation and administration. He also assisted with data preparation and presented data at industry events. He has reviewed manuscripts and a presentation abstract submitted for peer-review.
- Dr. Karl Storchmann, Clinical Professor, Economics Department, New York University; Managing Editor, Journal of Wine Economics
    - Dr. Storchmann assisted with survey preparation and administration. He has reviewed manuscripts and a presentation abstract submitted for peer-review.

Graduate Research Assistants

- Ms. Abigail Miller, former Master of Science Student, Plant Science Department, The Pennsylvania State University. Graduated: December 2015.
    - Ms. Miller was involved in the development, administration, and analysis of data obtained from Survey 1 and 2 participants. She co-authored blogs and podcasts based on her data analysis and she delivered presentations to several industry audiences in the three targeted states in the Mid-Atlantic region. Data are also reported in her thesis, which can be accessed through this link: https://etda.libraries.psu.edu/paper/27161/
- Ms. Jennifer Zelinskie, Master of Science Student, Plant Science Department, The Pennsylvania State University. Expected data of graduation: May 2017.

- Ms. Zelinskie was involved in the development, administration, and analysis of data obtained from Survey 3 and 4 participants. She is co-authoring blogs and podcasts based on her data analysis.

- Mr. Jingkun Zhuang, Master of Science Student, Department of Agriculture, Food and Resource Economics, Rutgers, The State University of New Jersey. Expected date of graduation: fall 2016.
    - Mr. Zhuang has based his thesis on data obtained from Survey and 2 participants. He is currently advised by Dr. Ramu Govindasamy.

<u>Summary of Results, Conclusions, and Lessons Learned</u>:

Data were collected from Survey Sampling International, LLC (Shelton, CT) panelists residing in three states (New Jersey, New York, and Pennsylvania) in the Mid-Atlantic region. Panelists were screened for not being a member of the wine industry, being at least 21 years old, and for having purchased and drank wine at least once within the previous year. Internet surveys were pre-tested on a sub-set of the target consumer and surveymonkey.com was used to as the collection tool.

Two Internet bulletin board focus group sessions (one for consumers who had purchased Mid-Atlantic wine and one for consumers who had not) were conducted February 5 to 7, 2013. Each session included 14 to 16 panelists. Qualified panelists logged-in to the bulletin board website twice a day, for a total of four logins, and responded to questions.

Internet surveys, 15-minutes in length were administered: 20-22 September 2013 (Survey 1); 22-24 October 2014 (Survey 2); 29 November to 1 December 2015 (Survey 3); 21 to 23 March 2016 (Survey 4, part 1); 28 to 30 March 2016 (Survey 4, part 2). The number of completed surveys obtained for each survey ranged between 715 and 1,246.

Objective:

1) Document Mid-Atlantic (New Jersey, New York, and Pennsylvania) wine consumer purchasing and consumption behaviors.

<u>Internet bulletin board focus group sessions</u>

In addition to wine, a majority of these participants drank alcoholic beverages such as beer and mixed drinks. Several participants responded that they still drank the sweet or semi-sweet wines that they enjoyed when they first started drinking the beverage. In a number of cases, the participants were influenced or introduced to wine by family and friends. Often, participants began drinking beer and then shifted to wine. Varietals of wines participants enjoyed ranged from more dry reds to Moscato, and a few participants mentioned drinking and liking wine from Eastern Europe, specifically Hungary and Georgia. Regions where wine was purchased from was impacted by travel and/or ethnic background.

Risk of purchasing wine that was disappointing was a concern. What influences wines purchased: friends/family, wine tasting, magazines, and front bottle label. Not only did some of the participants select wine because of the food they ate, but for some wine choices were impacted by season. For example: “For the fall, I like a Pinot Noir…Merlots, Cabernet Sauvignon. Springtime means a Chardonnay for me.” An overwhelming number of participants drank wine because they liked the taste.

Participants were asked if the amount they spent on a standard 750ml glass bottle of wine varied based on situations. Most participants indicated that they spent less per bottle if they were drinking it in their home when not entertaining compared to when serving the wine to others.

Most participants had social media accounts such as Facebook, while fewer had Twitter, Pinterest, and LinkedIn accounts. Most of these participants used social media accounts to connect with friends and family; however, there were participants who would use these accounts to follow or connect with businesses. About half of participants had smartphones but few of these participants used the phones for shopping. When asked it they would purchase a bottle of wine they were less or not familiar with if a promotion or cause was tied to the wine, few participants responded that they would do so. Promotions was not the primary factor that persuaded them to make a purchase.

Participants who had purchased Mid-Atlantic wine prior to participating had positive impressions about these wines. There were participants who felt that it was impossible to grow grapes or quality grapes in the region. This sentiment was not reserved for only those who had not previously purchased Mid-Atlantic wines. Rather, some participants who purchased Mid-Atlantic wines felt this way.

Survey 1

To better understand consumption, participants were asked to indicate the frequency which they drank wine. Few (7.2%) drank wine daily, 25.7% drank wine “a few times a week,” and 18.8% drank wine about once a week. On the days that participants consumed wine, they consumed an average of three glasses of this beverage. When data was segmented to create groups based on consumption frequency, 32.9% of participants were considered “super core” wine drinkers (drank wine daily to a few times a week), 18.8% were “core” wine drinkers (drank wine about once a week), and 48.3% from were considered “marginal” wine drinkers (drank wine less frequently). There were no statistically significant differences when responses for wine consumption were segmented based on age range; however, when data were segmented based on gender more male participants purchased wine “daily” and “about once a week” (4.8 and 18.0%, respectively) compared to female participants (0.7 and 12.4%, respectively).

Purchasing frequency was also investigated, with 34.1% of respondents purchasing wine “a few times a year,” followed by those who purchased wine “once a month” (22.4%) and “two to three times a month” (21.6%). Reported wine purchasing habits differed statistically based on age range with more participants age 25 to 34 years indicating they purchased wine “daily” (4.7%) compared to participants age 35 to 44 years (1.2%) and those age 45 to 64 years, of which none of these respondents purchased wine at this frequency. A greater percent of participants age 45 to 64 years (39.8%) had purchased wine “a few times a year” compared to participants age 25 to 34 years (30.0%).

Wine consumption and purchasing frequency segmented by age range

Variable	All Participants	Age Range			
		21-24[z]	25-34	35-44	45-64
Wine Consumption					
Daily	7.2	6.1a	9.1a	7.2a	6.0a
A few times a week	25.7	21.8a	27.1a	28.4a	24.1a
About once a week	18.8	22.7a	15.6a	17.7a	20.5a
Two to three times a month	23.0	25.8a	24.1a	20.0a	23.2a
About once a month	10.5	13.5a	9.4a	9.6a	10.5a
A few times a year	14.8	10.0a	14.7a	17.1a	15.7a
Wine Purchasing Frequency					
Daily	2.2	3.5ab	4.7a	1.2b	0.0b
A few times a week	5.7	7.4a	6.2a	6.4a	3.3a
About once a week	14.0	10.9a	15.6a	15.4a	13.0a
Two to three times a month	21.6	22.7a	25.0a	21.7a	17.2a
About once a month	22.4	20.5a	18.5a	23.2a	26.8a
A few times a year	34.1	34.9ab	30.0b	32.2ab	39.8a

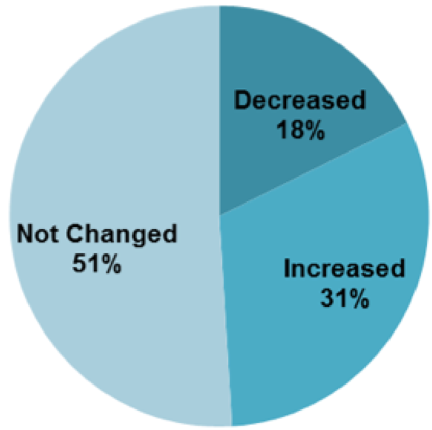
[z]Percentages with different letters within different rows and demographic category (age range) represent Pearson’s Chi-Square, Phi and Cramer’s V, and ANVOA followed by Games-Howell tests where values are significantly different, at the level of $p \le .05$; SPSS, Version 21 and 22, Chicago.

Participants were asked to select the categories that described the frequency at which they purchased 750ml bottles of wine. The majority of participants “purchased one or more 750ml bottles to be consumed immediately” (65.3%), followed by 47.2% of respondents who purchased “one or more bottles to be added to a collection and/or be consumed later.” Pertaining to varietals purchased and consumed, more than two-thirds of participants purchased Chardonnay, Pinot Grigio/Pinot Gris, and Merlot. One-third or less of participants purchased Vidal Blanc, Traminette, and Chambourcin.

The two price ranges that the greatest percentage of participants reported spending on “everyday” wine was between $8.00 and $10.99 and between $11.00 and $14.99. For wine that they purchased for “special occasions,” the greatest percentage of participants spent between $15.00 and $19.99 and between $20.00 and $24.99.

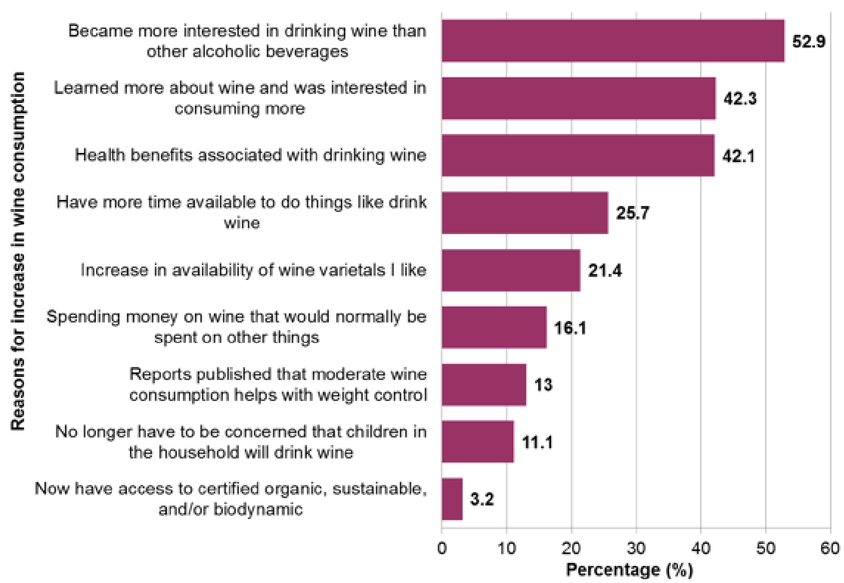
Nearly a third (31%) of participants indicated that their consumption of wine increased over the previous three years (2010 to 2013), while 18% indicated their consumption decreased during this period and 51% indicated their consumption of wine had not changed.

Change in wine consumption (increased, not changed, decreased) over the past three years, as reported by survey participants.



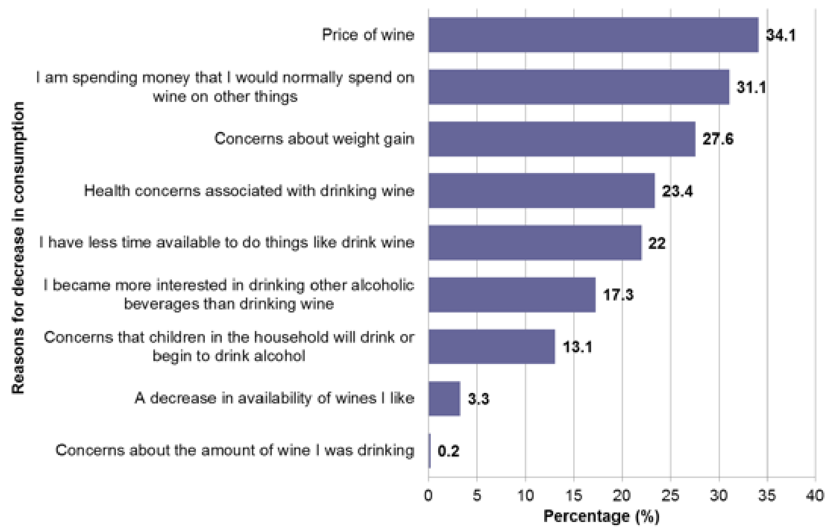
Participants were asked to select all reasons as to why they increased their wine consumption. Half, 52.9%, indicated that their interest in drinking wine, compared to other alcoholic beverages, influnced the increase in consumption, followed by: learning more about wine (42.3%) and the noted health benefits associated with drinking wine (42.1%).

Reasons consumers indicated that they increased their wine consumption between the years of 2010 to 2013



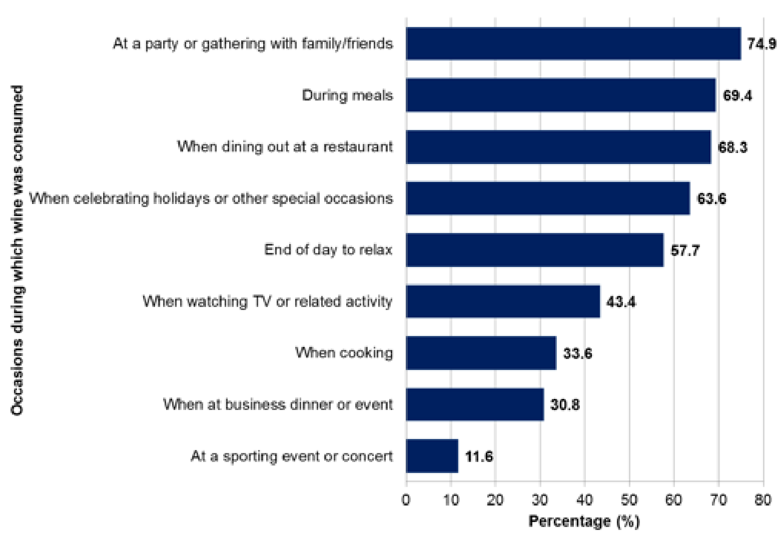
Of the 18% of participants who indicated that their wine consumption decreased during the period of 2010 to 2013, approximately a third of participants indicated that price of wine (34.1%), that they would rather spend their money on other things (31.1%), and concerns about weight gain (27.6%) were contributing factors.

Reasons as to why survey participants have decreased their consumption of wine between the years of 2010 to 2013



Regarding the occasions during which they consumed wine, the top three occasions were: "a party or gathering with family and/or friends" (74.9%), "during meals at home" (69.4%), and "dining out at a restaurant" (68.3%). The occasion when people were least likely to consume wine was when they were at a "sporting event or concert" (11.6%).

Occasions during which survey participants indicated that they consumed wine.



Survey 3

As vintners and wineries in the Mid-Atlantic grow native grapes and the juice is made into wine or blended with juice from other grapes, we investigated participant consumption of four of the more commonly found varietals of wine made from native grapes. Just less than half (48.0%) of participants consumed wines made from native grapes at least once during an average year. Of the varietals presented, more participants drank Concord both "everyday" (61.7%) and on "special occasions" (55.8%) than Niagara, Catawba, and Delaware.

Consumption of wine made from native grapes during the following two occasions:

Varietal	Consumed "everyday"	Special occasions/ when entertaining
Concord	61.7%	55.8%
Niagara	40.0%	34.1%
Catawba	22.0%	21.2%
Delaware	18.8%	17.3%

Survey 4, part 1

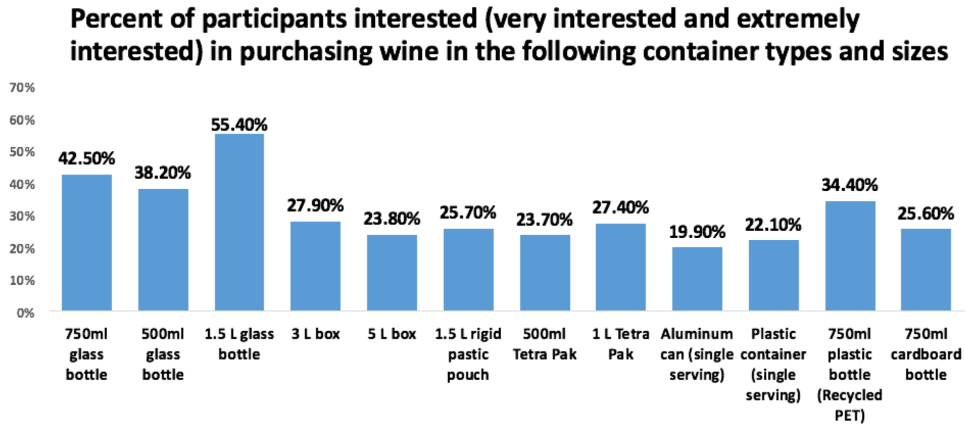
We investigated what wine products (e.g. varietals, container size, container material) appealed to our participants meet their needs. When asked to select the type of wine that they consumed most frequently, 51.8% selected red table wine, 32.0% selected white table wine, 7.9% selected rose, with a combined 8.2% selected sparkling wine, dessert wine, and fortified wine. Pertaining to level of "sweetness," nearly 40% selected "dry wine," and approximately a third selected "semi-sweet wine."

Based on winery owner/operator input, additional questions were asked about consumer interest in fruit wines. During an average year, a majority of participants purchased and consumed fruit wines (70.0%), and they were more likely to consume them "about once a week," "two to three times a month," and "a few times a year."

Survey 4, part 2

Wine cases purchases were investigated in Survey 4, part 1, of which 36.0% of participants reported that they had purchased cases in the past. In part 2, participants were asked whether certain sized wine containers and containers made of select materials would interest (combined "very" interested and "extremely" interested) participants enough to encourage them to purchase wine sealed in the container. While 42.5% of participants were "interested" in 750ml glass bottles, an even greater percentage (55.4%) were "interested" in purchasing wine in

1.5 L glass bottles. As it has been suggested that certain generations have an interest in specific types of containers, interest in purchasing wine in plastic recyclable containers and single serving containers was also investigated. Approximately one-third (34.4%) were interested in purchasing wine sold in 750ml plastic bottles (Recycled PET), 22.1% in single-serving sized plastic containers, and 19.9% in single-serving sized aluminum cans.



Objectives:

2) Identify demographic, psychographics, and behaviors that differ between Mid-Atlantic consumers who purchase wine produced by New York, New Jersey, and Pennsylvania wineries and those who choose not to purchase wines from this region.
3) Segment likely Mid-Atlantic wine purchasers based on occasion and/or demographic characteristics.

<u>Survey 1</u>

Nearly half (46.1%) of participants reported drinking wine produced in New York, 31.5% responded that they drank Pennsylvania wine, and 24.1% had drank wine produced in New Jersey. When these participants were asked to indicate where they purchased wine that was produced in the three states, the majority of participants (65.9%) purchased wines from “retail liquor stores in [their] state.” The second outlet where most participants purchased wine was from a “winery tasting room” (27.1%), closely followed by a “winery at festivals or events” (26.4%). The outlets where participants purchased wine the least were “wholesale clubs” (13.9%) and “winery through the Internet” (9.5%).

Outlets from which participants who drank wine from the three mid-Atlantic states (New jersey, New York and/or Pennsylvania) purchased the wine segmented based on age range and state of residence

Variable	All Participants	Age Range				State of Residence		
		21-24[z]	25-34	35-44	45-64	New Jersey	New York	Pennsylvania
Outlets Where Wine was Purchased (%)								
Retail liquor stores in participant's state	65.9	63.8a	68.4a	64.1a	66.4a	69.7a	57.0b	65.4ab
Winery tasting room	27.1	25.5a	28.1a	28.1a	26.1a	28.9a	24.4a	25.9a
Winery who are at festivals or events	26.4	23.9a	30.5a	26.3a	23.9a	29.5a	21.2a	24.7a
Wholesale club	13.9	21.8a	15.1ab	12.6ab	8.6b	17.7a	13.5ab	8.4b
Winery through the Internet	9.5	11.7ab	14.7a	7.0b	5.0b	10.6a	7.3a	9.0a

[z]Percentages with different letters within different rows and demographic category (age range and state of residence) represent Pearson's Chi-Square, Phi and Cramer's V, and ANVOA followed by Games-Howell tests where values are significantly different, at the level of $p \leq .05$; SPSS, Version 21 and 22, Chicago.

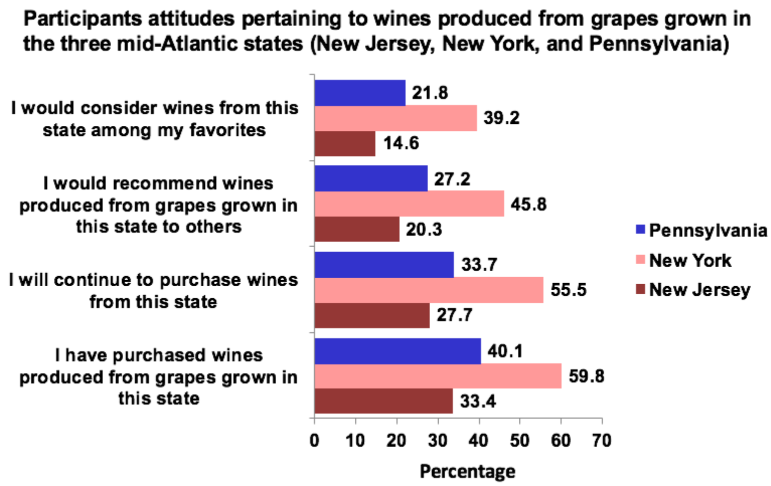
Survey 2

Participants were asked to indicate if they purchased wine made from grapes grown in the Mid-Atlantic for "everyday" consumption, of which 64.5% responded that they had purchased "everyday" wine from New York. Slightly less than half of participants responding that they had purchased Pennsylvania wine (46.4%) and New Jersey wine (42.3%) for "everyday" consumption. When data were segmented by age range, a greater percentage of participants age 25 to 34 and 45 to 64 years indicated they purchased wine produced with grapes grown in New York for "everyday" occasions (66.5 and 64.9%, respectively) compared to than those age 21 to 24 years (49.1%). There were no statistically significant differences based on age range for wines produced from grapes grown in New Jersey or Pennsylvania.

Regarding wine purchased for "special occasions," more participants, 53.5% responded they purchased this if the grapes were grown in New York, followed by Pennsylvania (35.3%) and New Jersey (28.9%). Based on age range, participants age 21 to 24 years (38.3%) were less likely to purchase wine produced from grapes grown in New York for "special occasions" compared to participants age 25 and older. When participants answered the question based on grapes being grown in Pennsylvania, those age 21 to 24 years (39.4%) and between age 35 and 44 years (37.7%) were more likely than the other age ranges (35.8 to 23.4%) to purchase the wine.

When asked the same question, but to give the wine as a gift, more than half, 53.4%, of participants responded they would purchase the wine if made from grapes grown in New York, followed by Pennsylvania (38.3%) and New Jersey (32.5%) for this occasion. Regarding wine purchased to take to a "bring your own" restaurant, once again, more than half of participants, 60.2%, responded they would purchase wine made from grapes grown in New York, followed by Pennsylvania (43.9%) and New Jersey (40.6%).

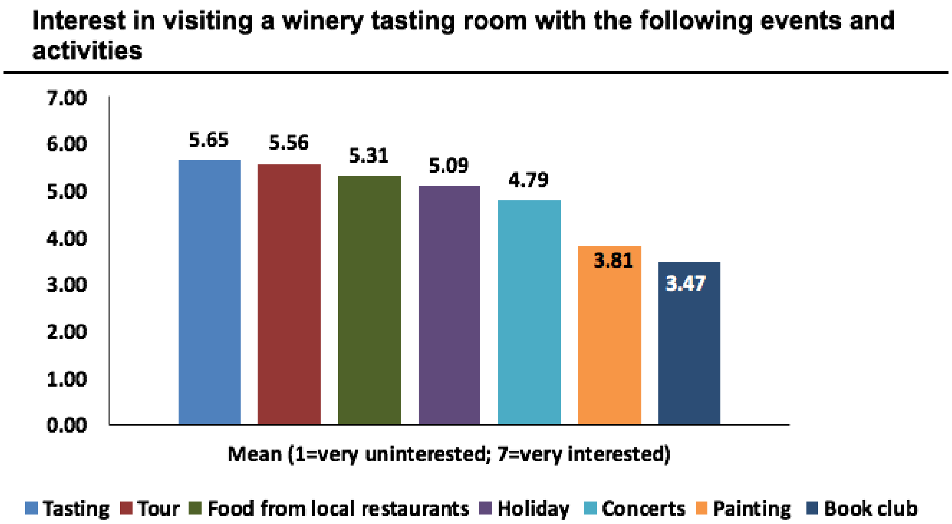
While 39.2% of respondent considered wine produced from grapes grown in New York among their favorites, only 21.8% of participants felt this way about wine produced from grapes grown in Pennsylvania, and even fewer (14.6%) about wine produced from grapes grown in New Jersey. A greater percentage of participants indicated that they were more likely to the follow two actions pertaining to New York wines, compared to the other two states: "I would recommend the wines to others" and "I will continue to purchase the wines."



Respondents answered questions pertaining to what activities winery tasting rooms could offer that would encourage them to visit. The top three reasons that would encourage participants to visit a winery within 200 miles of their home were: "sale section of merchandise" (68.8%), "each month a new wine is featured at a discounted price" (67.6%), and the "tasting fee applied to the bottles of wine purchased" (67.0%).

While the "sale section of merchandise" and "tasting fee applied to the bottles of wine purchased" appealed equally to each age range, some differences were apparent for other activities (Table 4.3). While nearly half of participants age 65 and older (49.4%) indicated that "each month a new wine is featured at a discounted price" would encourage them to visit a winery tasting room, a greater percentage of participants age 21 to 44 years would be motivated by this component (range of 70.1 to 77.1%). Fewer participants 65 and older were interested in: "keep[ing] the glass from the tasting" (35.1%) than participants age 21 to 44 years (range of 57.1 to 68.5%); "local entertainment" being offered at a winery tasting room (35.1%) compared to those age 21 to 64 years (range of 49.5 to 64.8%); "educational workshops" (38.4%) compared to participants age 21 to 44 years (range of 60.2 to 64.8%).

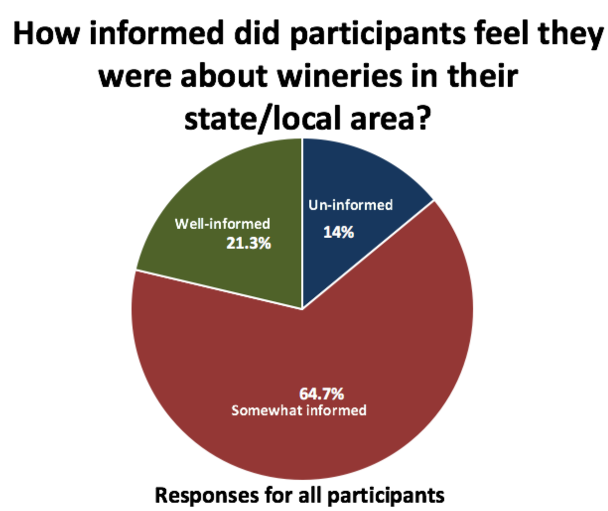
Respondents were then asked to rate their interest in events held at a winery tasting room on a Likert-type scale of 1 through 7, 1 being "very uninterested" in the event and 7 being "very interested." Results in the table below are the means of participants' responses. The top three events that interested participants were: "tasting events" (mean of 5.65), "tour of the winery and vineyard" (5.56), and "food vendors from local restaurants" (5.31). The event with the lowest mean, indicating participants had less of an interest, pertaining to interest in visiting a winery tasting room were "book clubs" (3.47) met.



Survey 3

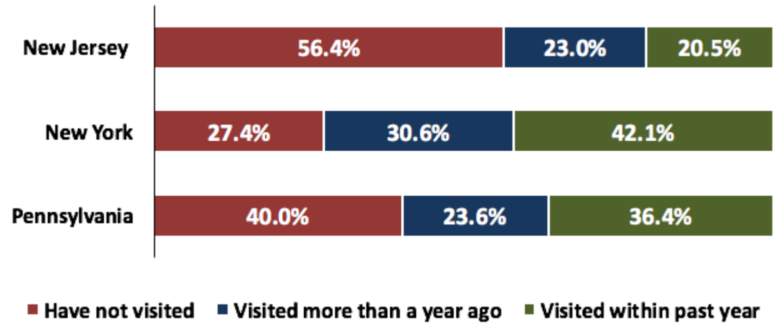
It became much more evident after talking with tasting room owners and operations after Survey 1 and 2 was administered that it was necessary to put more emphasis on understanding what motivates Mid-Atlantic wine consumers to visit tasting rooms, what would encourage more frequent visits, and level of interest in attending wine festivals.

One component of Survey 3 was to quantify how many participants felt that they were informed about the wineries in their state and/or local area. While 64.7% responded that they were "somewhat informed," fewer felt they were "well-informed" (21.3%).



Of the participants, 63.1% had visited a tasting room in one of the three states. With wineries depending on foot traffic to produce the sales necessary to be economically sustainable, we asked participants if they visited a winery in each state, and if the state was within the last year (December 2014 to November 2015) or prior to that time period. Fewer participants indicated that they "had not visited" a tasting room in New Jersey (56.4%), while more had visited a New York (42.1%) and Pennsylvania (36.4%) winery tasting room "within the past year."

Of the participants who visited wineries in any of the three mid-Atlantic states, the percent that: a) had not visited a winery in that particular state; b) had visited but more than a year ago; and c) visited within the past year



Since respondents who participated in Survey 3 did not necessarily participate in Survey 2, we asked the question again about purchasing and consuming wine from each of the three states for "everyday" consumption and on "special occasions." This data was then segmented based on whether respondents visited tasting rooms in any of the three states. For those who were Mid-Atlantic winery tasting room visitors, more of the visitors purchased wine produced in New York for "everyday" consumption (45.8%) and "special occasions" (44.8%) compared to wine produced in Pennsylvania and New Jersey.

When asked who they visited winery tasting rooms with, 73.8% of participants who visited tasting rooms in the three states visited with a spouse/partner, followed by friend or group of friends (58.3%) and family members age 21 and older (32.8%).

Mid-Atlantic tasting room visitors

Percent who purchased bottles of mid-Atlantic wine to be consumed in their home for:		
State where wine was produced	Everyday wine consumption	Special occasions/ entertaining
New Jersey	13.4%	16.0%
New York	45.8%	44.8%
Pennsylvania	31.2%	30.9%

Who they visited mid-Atlantic tasting rooms with:	
Spouse/partner	73.8%
Friend or group of friends	58.3%
Family members age 21 and older	32.8%

With many wine consumers "making a day" or weekend of their tasting room visits, we asked participants to indicate whether restaurants and food; lodging; other wineries, breweries, and/or distilleries in the area; and shopping would be of importance when planning their tasting trip. Light snacks available for purchase at the tasting room (63.8%) and restaurants in close proximity to the tasting room (63.4%) were selected by the greatest percentage of participants. Only 43.2% of participants selected "other winery tasting rooms" and 38.2% "breweries and/or distilleries" in close proximity to the tasting room as being important.

What is important to mid-Atlantic tasting room visitors:

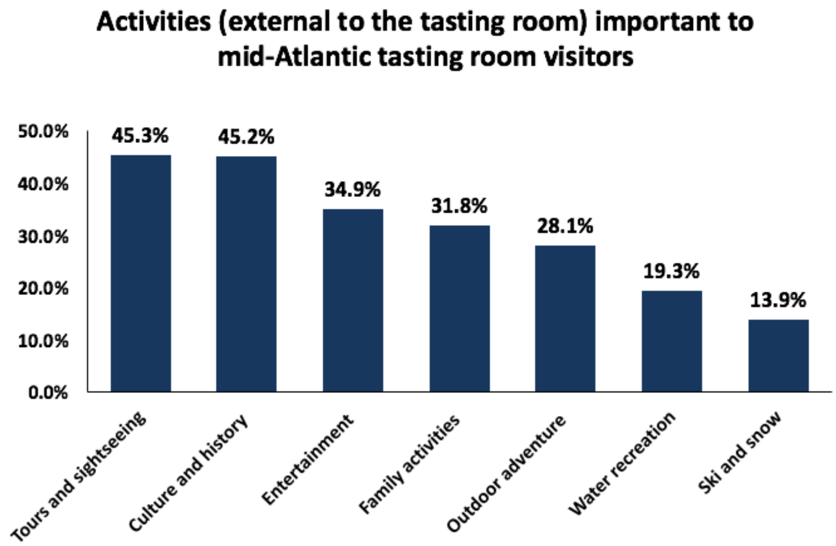
Located at the winery/tasting room:	Located in close proximity to the winery/tasting room:
• Light snacks available for purchase: 63.8% • Activities and/or events: 46.9% • Gift shop/items for purchase: 45.0% • Restaurant: 39.8% • Lodging: 21.7%	• Restaurants: 63.4% • Shopping: 47.8% • Lodging: 44.3% • Breweries and/or distilleries: 38.2% • Other winery tasting rooms: 43.2%

Wine festivals can attract large numbers of wine consumers, while others may choose to avoid them for a variety of reasons. The top three reasons as to why participants would choose not to attend a wine festival were: distance needed to travel to attend (36.4%), price of admission (31.5%), data and/or time the festival was held (27.4%).

Primary reasons why participants have chosen not to attend a wine festival

Reason	% who selected
Distance needed to travel to attend	36.4%
Price of admission	31.5%
Date and/or time the festival was held	27.4%
Parking/transport to the festival	24.9%
Crowded/long lines	23.5%
No family/friends interested in attending	21.1%
No interest in attending	16.2%

Regarding activities that could be offer, external to the winey but in the region surrounding the tasting room, the top three activities that were of interest to participants were "tours and sightseeing" (45.3%), culture and history (45.2%), and entertainment (34.9%). Using this information, winery tasting rooms could develop day or weekend packages that appeal to tasting room visitors.



Survey 4

Half (50.1%) of participants traveled to winery tasting rooms within 100 miles of their home to visit and/or purchase wines. As might be expected, patronage was greater the closer the tasting room was to the participants' home. Of participants who visited a tasting room within 100 miles of their home, 74.0% visited a tasting room within 25 miles, 69.9% between 26 and 50 miles from their home, and half between 51 to 99 miles from their home.

Distance participants traveled to visit and/or purchase wines from winery tasting rooms

Winery tasting room distance from the participants' home	Participants who visited and/or purchased wines from the tasting room
Less than 25 miles	74.0%
26 to 50 miles	69.9%
51 to 99 miles	50.9%
100 miles or more	40.9%

It is hypothesized that consumers choose to visit winery tasting rooms to make purchases compared to retail liquor stores for certain reasons. Thus compared to purchasing wine from a retail liquor store, 51.5% of participants chose to purchase wine from a tasting room located within 100 miles of their home because they had the "ability to taste all or most of the wine before they purchased it," 47.0% because they "like the taste and/or quality of the wine produced at the wineries," and 44.2% "would like to purchase wine directly from the wine maker."

Compared to purchasing wine from a retail liquor store, what has a positive influence on participants' likelihood of purchasing wine from a tasting room located within 100 miles of their home

Reason	Participants who selected the reason
Ability to taste all or most of the wine before the purchase	51.5%
Likes the taste and/or quality of wine purchased at these wineries	47.0%
Participant would like to purchase wine directly from the wine maker	44.2%
Purchasing wine directly from the winery tasting room provides more support to the local economy	44.0%
More discounts are offered at winery tasting rooms when multiple bottles are purchased	36.9%
Varietals of wine native to their area are available for purchase	28.7%
Member of the winery's wine club and earns rewards based on wine purchases	13.4%

It became more evident during the project that wine trails and tasting room loyalty programs were of great importance to wineries in the three Mid-Atlantic states. Slightly over half (53.0%) of survey participants were familiar with the concept of a wine trail, while a minority (12.4%) of participants were members of a tasting room "wine club." However, 50.7% of those who were not members were interested in joining one.

To better understand what benefits would appeal to current and potential wine club members, survey participants who were a) current members of a wine club and b) were not members but were interested in joining one, were asked to select the benefits that best appealed to them. Half, 51.6% were interested (very interested and extremely interested) in "discounts on all winery tasting room purchases," and 49.4% were interested in "free shipping on online purchases of $75.00 or more.

Participant interest (very interested and extremely interested) in benefits offered by joining a winery tasting room's "wine club"

Benefit	Participants who would be interested (very interested and extremely interested)
Discounts on all winery tasting room purchases (e.g. wine, merchandise, and similar)	51.6%
Free shipping on online purchases of $75.00 or more	49.4%
Free admission for two to member only events held at the winery	46.2%
Access to limited edition wines, wines before they are released to the general public, and similar	44.2%
More discounts are offered at winery tasting rooms when multiple bottles are purchased	36.9%
As membership price increases so do benefits provided	36.1%
Free subscription to a regional and/or national newsletter or wine journal	34.6%

Objective:

4) Estimate the quantity and value of wine purchased from Mid-Atlantic wineries and predict the probability of purchasing local wine given consumers' purchasing patterns and demographic characteristics.

Survey 1 and 2

Bivariate and multivariate analyses were conducted to determine whether demographic and socio-economic characteristics (e.g. age range, annual household income) had an effect on wine buying and purchasing behaviors (average number of days they drank wine in a month and average number of glasses of wine consumed on these days).

A logistic regression model, based on whether respondents purchased wine produced from grapes grown in the three states, age range, annual household income, and education level were the most significant variables impacting wine purchasing behavior.

Two separate logarithm transformations were performed to determine variable impacting wine consumption behavior. The linear regression model that used "average number of days a participant drank wine during a month" as the response variable revealed that participant state of residence, and household income were the most significant factors. The linear regression model that "average number of glasses of wine consumed on these days" revealed that age range, annual household income, and level of education were the most significant factors.

Pertaining to what variable influenced wine purchasing behavior, participant state of residence, age range, annual household income, and level of education were the most significant variables.

Participants most likely to purchase Mid-Atlantic wine were:

- between 45 and 64 years of age
- had an annual household income of $76,000 or greater
- had a bachelor's degree or higher
- married
- New York residents
- craft beer drinkers
- those that drank wine during meals, at the end of the day to relax, or on holidays.

Objectives:

5) Investigate potential marketing promotions for the Mid-Atlantic wine industry.
6) Evaluate options for Mid-Atlantic wine marketing and promotional strategies.

Survey 1

Participants indicated what social media accounts they had, what accounts were active, and which they used to connect with family/friends, businesses, or both. The majority of participants had a Facebook account, followed by YouTube, followed by Google+, Twitter, Pinterest, Instagram, and then Foursquare. Of those with these respective accounts, 26.9% of used Facebook to connect with companies, 12.8% used Twitter, and 10.9% used YouTube.

Of the social media tools investigated, approximately half of participants responded that a Facebook Page (55.4%) was mandatory for a winery and tasting room to implement, with fewer participants suggesting that a "blog" (19.4%), "Twitter Account" (18.7%) or "YouTube Page" (17.3%) were mandatory (Table 3.2). Twelve percent or fewer felt that a "Pinterest Page" or "Instagram Account" were mandatory.

Social media outlets participants felt were mandatory for wineries and tasting rooms to implement to connect with customers segmented by age range

Variable	All Participants	Age Range			
		21-24[z]	25-34	35-44	45-64
Social Media Outlets Mandatory to Implement (%)[z]					
Facebook Page	55.4	61.9a	60.5a	56.8a	42.0b
Blog	19.4	24.4a	21.0ab	18.9ab	13.9b
Twitter Account	18.7	19.3ab	20.3a	23.2a	10.9b
YouTube Page	17.3	21.8a	18.6a	16.1a	13.4a
Pinterest Page	12.0	14.2a	12.0a	14.4a	7.1a
Instagram Account	10.4	21.3a	10.3b	7.7b	4.6b

[z]Percentages with different letters within different rows and demographic category (age range) represent Pearson's Chi-Square, Phi and Cramer's V, and ANVOA followed by Games-Howell tests where values are significantly different, at the level of $p \leq .05$; SPSS, Version 21 and 22, Chicago.

Regarding other electronic communications, 36.3% of participants felt an email newsletter, a "website for promoting the winey and wines produced" (65.2%), and a "website for promoting the winery and from which wines can be purchased" (58.8%) were mandatory. While there were no differences between age groups as to an email newsletter being "mandatory," fewer participants between age 25 and 34 years felt a "website for promoting the winey and wines produced" (53.6%) and a "website for promoting the winery and from which wines can be purchased" (58.8%) were "mandatory" compared to participants between age 45 and 64 years (65.1 and 71.8%, respectively).

Email and website components participants felt were mandatory for wineries and tasting rooms to implement to connect with customers segmented by age range

Variable	All Participants	Age Range			
		21-24[z]	25-34	35-44	45-64
Email and Website Components Mandatory to Implement (%)[z]					
Website for promoting the winery and wines produced	65.2	62.4ab	58.8b	68.1ab	71.8a
Website for promoting the winery and where wines can be purchased	58.8	57.4ab	53.6b	59.6ab	65.1a
Email newsletter	36.3	37.1a	31.6a	38.2a	39.1a

[z]Percentages with different letters within different rows and demographic category (age range) represent Pearson's Chi-Square, Phi and Cramer's V, and ANVOA followed by Games-Howell tests where values are significantly different, at the level of $p \leq .05$; SPSS, Version 21 and 22, Chicago.

Specific information that wineries and tasting rooms were expected to include in social media messages and emails, as well as placed on websites was also investigated. Among the categories provided, the top three components participants expected to see on a website, included in an email newsletter, or posted on social media were: "wine serving and pairing suggestions" (55.1%), "coupons, promotions, and discounts" (53.9%), and "events and special occasions" (45.2%). When segmented based on age range, fewer participants age 45 to 64 found "wine serving and pairing suggestions" appeal compared to participants age 44 and younger.

The top three informational pieces participants expect to be posted in social media messages, emails, and placed on websites segmented by age range

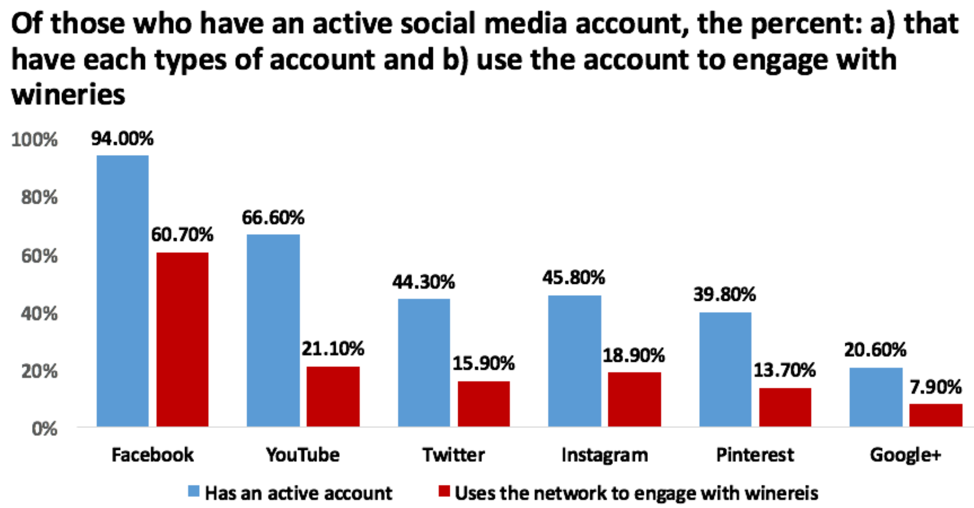
Variable	All Participants	Age Range			
		21-24[z]	25-34	35-44	45-64
Information Participants Expected to be Posted (%)[z]					
Wine servings and pairing suggestions	55.1	59.4a	56.8a	57.1a	48.2b
Coupons, promotions, and discounts	53.9	52.8a	53.8a	56.8a	51.5a
Events and special occasions offered at the tasting room	45.2	45.0a	44.1a	49.0a	42.5a

[z]Percentages with different letters within different rows and demographic category (age range) represent Pearson's Chi-Square, Phi and Cramer's V, and ANVOA followed by Games-Howell tests where values are significantly different, at the level of $p \leq .05$; SPSS, Version 21 and 22, Chicago.

<u>Survey 4, part 2</u>

As participants in previous surveys reported having active social media accounts, it was of interest to learn how many used these networks to engage with wineries and tasting rooms.

Eighty-four percent of those who participated in Survey 4, part 2, reported that they used social media and/or review sites at least once a month. The social media network that were used by nearly all participants (94.0%) was Facebook. Over half used YouTube (66.6%) and slightly less than half used Twitter (44.3%) and Instagram (45.8%). When asked how many of these participants used social media to engage with wineries or tasting rooms, 60.7% of those that used social media at least once a month used Facebook to do so, followed by 21.1% of YouTube users, 15.9% of Twitter users, and 18.9% of Instagram users.



While social media is often through of as a primary way to communicate with consumers comfortable with technology, it was of interest to learn in participants would be interested in receiving communications from tasting rooms by text. A majority (88.1%) of participants had a smartphone, 16.2% had a basic cell phone, and 63.9% had a tablet. Half (52.9%) of participants would be interested in receiving text messages from a winery tasting room that contains information about events, wine tastings, new wine releases, and similar. Slightly less than a quarter, 24.1% had mobile wine apps installed on their smartphone and/or tablet. Of the features investigated, location services, directions, and/or map to the winery tasting room was selected as the most important feature by 57.7% of participants.

Vintners and wine makers could also pursue several different avenues to appeal to wine consumer, participant interest in ecological pursuits were investigated, primary: building materials and processes used to build structures, how grapes were grown and wine was made, and materials which wine containers were made from.

In general, 30% of participants had heard of or were familiar with the concept of Leadership in Energy and Environmental Deign (LEED) buildings, 17.5% were unsure/didn't know, and the remained had not heard/were not familiar with the concept. While only 27.0% of participants "specifically look for and buy wine that is marketed as being sustainable," slightly more (32.1%) responded that their purchasing decision would be influenced (combination of very and extremely influenced) if the wine container was made from sustainable materials.

Components of the business that did resonate with approximately a third of participants included: "the business supports a charitable cause," "wine container is made from sustainable materials," "winery and/or vineyard is sustainable in their farming and wine making practices," and "winery tasting room and other buildings are LEED certified."

Factors that would influence (very influential and extremely influential) participants' decision to purchase wine

Factor	Participants who would be influenced (very influenced and extremely influenced)
The business supports a charitable cause (e.g. donates a portion of sales, hosts fundraisers)	33.7%
The wine container is made from sustainable materials	32.1%
The winery and/or vineyard is sustainable in their farming and wine making practices	30.5%
Winery tasting room and other building are LEED certified	27.1%

Interest in how grapes were grown and/or wine was produced was also investigated as a potential marketing strategy. While 75.7% of participants would be interested (combined very interested and extremely interested) in purchasing wines made with "no artificial flavors, colors, or preservatives," 67.1 and 67.2% of participants, respectively, would be interested in purchasing wine produced from grapes grown with "minimal insecticides and/or herbicides," and from vineyards where "wildlife is protected and/or native plant conservation is practiced."

Participant interest (very interested and extremely interested) in purchasing wine based on select grape growing and wine production practices

Factor	Participants who would be interested (very interested and extremely interested)
No artificial flavors, colors, or preservatives used to make the wine	75.7%
Minimal insecticides and/or herbicides are used in the vineyard	67.1%
Wildlife is protected and/or native plant conservation is practiced	67.2%
Techniques are used to conserve water	60.1%
Energy efficient equipment and practices are used	58.8%
Alternative energies are used to power buildings and/or machinery	57.7%
Cover crops are used in the vineyard to control weeds	51.3%

Furthermore, nearly all, 93.6%, of participants recycled wine containers, and slightly fewer (83.7%) would be willing to bring empty wine bottles to a winery tasting room to be recycled. Of those who would not be interested, 38.8% would be willing to do so if they were offered a "modest discount" on wine purchases. Slightly more than a third (39.4%) recycled natural corks.

Evaluation:

Overall, the goal and objectives of this research were fulfilled. A decrease in the cost of survey administration, along with fewer completed surveys obtained compared to what was proposed, allowed the researchers to administer five separate surveys were conducted instead of two initially planned. The issue of fewer completed surveys did not compromise the analysis as at least 715 completed responses were collected during each survey period.

It became much more evident after talking with tasting room owners and operations after Surveys 1 and 2 were administered that it was necessary to put more emphasis on understanding what motivates Mid-Atlantic wine consumers to visit tasting rooms, what would encourage more frequent visits, level of interest in attending wine festivals, and participation in loyalty programs. In addition, stakeholders inquired about consumer purchasing and consumption of fruit wines and wines made from native grapes.

For Survey 3 and 4, part 1 and 2, less emphasis was placed on collecting data that could be used to develop distinct marketing messages and promotional strategies for each state. This is due to discovering that differences in wine consumption, attitudes, and beliefs did not differ based on state of residence. In addition, as tasting rooms ranged from those that only operated on the weekends to multi-location businesses that sell wine on the internet, a marketing and promotion strategy for each state still may not serve stakeholders to the degree that data collected on individual components (e.g. use of wine trails, interest in tasting room activities and events) could. Hence, data were analyzed by participant age range (which is reported in this report), gender, and wine consumption frequency.

While audiences who listened to presentations at industry events ranged in size, each blog entry was read by 79 to 393 industry members, and posts published on the Penn State Extension Enology Facebook Page, which 560 users receive updates (as of May 2, 2016) and many more users are "reached" by the posts.

Over the course of the next year, additional blogs, podcasts, Periscope broadcasts, and similar will be developed and published for stakeholder review and consideration.

<u>Current or Future Benefits/Recommendations for Future Research</u>:

Several surveys were conducted to learn about Mid-Atlantic wine consumers' interest in: 1) consuming wine; 2) varietal preferences; 3) where and when they drink it; as well as what motivates tasting room and festival visits, and responses to many other questions that are of benefit to industry members. While some data has been published from Survey 1 and 2, additional data from these surveys and from Survey 3 and 4, part 1 and 2, will be disseminated through the Penn State Wine & Grape U. blog (http://psuwineandgrapes.wordpress.com) and podcasts and recorded Periscope broadcasts on the Penn State College of Agricultural Sciences YouTube page (https://www.youtube.com/user/psuagsciences). Other data analysis will be conducted and material will continue to be shared with stakeholders through these outlets and stakeholder presentations, and others deemed appropriate.

<u>Project Beneficiaries</u>:

A primary goal of the research team was to provide stakeholders with data but also with suggestions as to how to implement the data to benefit their winery and tasting room operations. For example, what size containers and container composition appeal, what encourages tasting room visits, preferred benefits offered to current and potential tasting room visitors, what influences festival attendance, and similar.

Not only have tasting room owners/operators and winemakers benefited from the outcomes of the various surveys, but grape growers in the Mid-Atlantic have a better understanding of what varietals of wine these consumers prefer to drink, including wine made from native grapes.

While the geographic focus was on three states in the Mid-Atlantic region (New Jersey, New York, and Pennsylvania), the blog posts and podcasts produced based on survey data are far reaching. Not only have these pieces been published on the Penn State Wine & Grape U. blog, they have been posted through social media (Twitter, Facebook, and Instagram), which metrics for each of these tools has shown that the blogs, in particular, have been read by individuals throughout the U.S., in several European countries, and a few in Asia and South America. State-wide and regional presentations have been delivered in each of the three targeted states, as well as to researchers who attended Food Distribution Research Society meetings.

Though the data has been collected from individuals who reside in the three states, the types of questions asked can be replicated by other researcher and tailored for their audiences, while information as to how wineries and tasting rooms can use survey outcomes may be of interest to these stakeholders who operate independent businesses in other U.S. states, especially those to the east of the Rocky Mountains.

Additional Information:

Industry presentations

- Kelley, K. Increasing tasting room visits through social media. Eastern Winery Exposition, Lancaster, PA. 8 March 2016.

- Govindasamy, R., S. Arumugam, K. Kelley, and A. Miller. Preferences of Mid-Atlantic consumers towards New Jersey Wine. Grape Expectations Symposium 2016, Rutgers Cooperative Extension Meeting, Monroe Township, NJ. 27 February 2016.

- Kelley, K., J. Zelinskie, A. Miller, and R. Govindasamy. Strategies for encouraging tasting room visits: Results from a study conducted with Mid-Atlantic wine consumers. Grape Expectations Symposium 2016, Rutgers Cooperative Extension Meeting, Monroe Township, NJ. 27 February 2016.

- Miller, A. and K. Kelley. Developing wine marketing strategies for the Mid-Atlantic region. New Jersey Vegetable Growers Meeting, Atlantic City, NJ. 9 February 2016.

- Miller, A. and K. Kelley. Developing wine marketing strategies for the Mid-Atlantic region. Pennsylvania Wine Marketing Research Board Symposium, University Park, PA. 22 April 2015.

- Miller, A. and K. Kelley. Developing wine marketing strategies for the Mid-Atlantic region. Cornell University Extension Business Enology and Viticulture (B.E.V.) Conference, Waterloo, NY. 26 February 2015.

- Miller, A. and K. Kelley. Developing wine marketing strategies for the Mid-Atlantic region. Department of Plant Science Seminar, The Pennsylvania State University, University Park, PA. 5 February 2015.

- Miller, A. and K. Kelley. Developing wine marketing strategies for the Mid-Atlantic region. Mid-Atlantic Fruit and Vegetable Convention, Hershey, PA. 28 January 2015.

- Kelley, K. Social media networks wineries should use to connect with consumers. Cornell University Extension Business Enology and Viticulture (B.E.V.) Conference, Waterloo, NY. 27 February 2014.

- Kelley, K. Social media for Pennsylvania wineries. Pennsylvania Winery Association Conference, Lancaster, PA. 5 March 2013.

Association Presentations

- Miller, A. and K. Kelley. 2014. Developing wine marketing strategies for the Mid-Atlantic region. Food Distribution Research Society, Annual Meeting, Salt Lake City, UT.

- A presentation will be delivered at the June 2016 American Association of wine Economists Annual Meeting in Bordeaux, France. The presentation will focus on how other wine drinkers in the household influenced our survey participants' wine consumption and purchasing, including Mid-Atlantic wine.

Wine Marketing Blog Series

Several blogs have been published on the Penn State Wine & Grape U. Blog (http://psuwineandgrapes.wordpress.com). These posts emphasize some of the key findings that will help the industry better understand consumption and purchasing patterns, as well as marketing and social media tools our Mid-Atlantic participants use and prefer to connect with wineries. Below is a list of the blogs that were published. In total, 644 individuals (as of May 2, 2016) received a notice about the blog post and others learned about the research via Twitter, Facebook, and email newsletters. Jennifer Zelinskie and Kathleen Kelley will continue developing blogs based on data obtained in 2015 and 2016.

- Kelley, K. and J. Zelinskie. 2016. Talkin' 'bount my (Wine Consuming) Generation. 27 May, 2016. Number of views: 160.
- Zelinskie, J. and K. Kelley. 2016 Consumer Behaviors and Attitudes Towards Wine Purchasing and Marketing Specific to New Jersey, New York, and Pennsylvania. Demographics of Super Core, Core, and Marginal Survey Participants. 19 February 2016. Number of views: 195.
- Kelley, K., A. Miller, and D. Ollendyke. 2015. What activities and events might drive customers to your tasting room? 28 August 2015. Number of views: 393.
- Miller, A. and K. Kelley. 2014. Consumer Attitudes and Behaviors towards Wine Purchases: Marketing & Social Media. 5 September 2014. Number of views: 150.
- Miller, A. and K. Kelley. 2014. Consumer Attitudes and Behaviors towards Wine Purchases: Everyday and Special Occasion Wines Part II. 27 August 2014. Number of views: 79.
- Miller, A. and K. Kelley. 2014. Consumer Attitudes and Behaviors towards Wine Purchases: Everyday and Special Occasion Wines. 20 August 2014. Number of views: 100.
- Miller, A. and K. Kelley. 2014. Consumer Attitudes and Behaviors towards Wine Purchases: Consumption Patterns Part II. 30 July 2014. Number of views: 140.
- Miller, A. and K. Kelley. 2014. Consumer Attitudes and Behaviors towards Wine Purchases: Consumption Patterns. 23 July 2014. Number of views: 153.
- Miller, A. and K. Kelley. 2014. Consumer Attitudes and Behaviors towards Wine Purchases: Purchase Patterns. 16 July 2014. Number of views: 121.
- Miller, A. and K. Kelley. 2014. Consumer Attitudes and Behaviors towards Wine Purchases: Demographics. 11 July 2014. Number of views: 191.
- Miller, A. and K. Kelley. 2014. Consumer Attitudes and Behaviors towards Wine Purchases: Introduction to the Research. 1 July 2014. Number of views: 79.

Wine Marketing Podcast Series, PSU Learn Now Videos

Based on blog posts that Abby Miller and I developed for the Wine & Grape U. blog, Dana Ollendyke developed podcasts that are posted on the PSU Food and Farm Biz YouTube page (https://www.youtube.com/user/PSUFoodandFarmBiz). The podcasts will be moved to the Penn State College of Agricultural Sciences YouTube page (https://www.youtube.com/user/psuagsciences) by July 2016, when their release as "Learn Now" videos will be promoted by Penn State Extension. Additional podcasts are in the post-production stage and Jennifer Zelinskie and Kathleen Kelley will continue developing podcasts based on data obtained in 2015 and 2016.

- Miller, A., and K. Kelley. Consumer attitudes and behaviors towards wine purchases: Introduction to the research (Video 1). 4 December 2015.
- Miller, A., and K. Kelley. Consumer attitudes and behaviors towards wine purchases: Purchase patterns (Video 2). 4 December 2015.
- Miller, A., and K. Kelley. Consumer attitudes and behaviors towards wine purchases: Consumption patterns (Video 3). 4 December 2015.
- Miller, A., and K. Kelley. Consumer attitudes and behaviors towards wine purchases: Everyday and special occasion wines (Video 4). 4 December 2015.
- Miller, A., and K. Kelley. Consumer attitudes and behaviors towards wine purchases: Marketing and social media (Video 5). 4 December 2015.
- Miller, A., and K. Kelley. Consumer attitudes and behaviors towards wine purchases: Other alcoholic beverages (Video 6). 4 December 2015.

Periscope live broadcast

On September 17, 2015, Jeffrey Hyde and Kathleen Kelley hosted a Periscope broadcast (periscope.tv), during which they shared data and marketing strategies with a live audience. Thirty-five Periscope users watched the live 10-minute segment, and an additional three replayed the broadcast. Unfortunately, with this being our first attempt with this tool, we failed to properly save the video segment (they only remain on the Periscope server for 24 hours).

Jennifer Zelinskie and Kathleen Kelley will be developing a series of Periscope broadcasts that will be conducted during summer 2016, based on survey data obtained in 2015 and 2016. Social media will be used to promote the sessions, which will then be posted on the Penn State College of Agricultural Sciences YouTube page (https://www.youtube.com/user/psuagsciences), and remind stakeholders after they have been posted.

Graduate Theses

Miller, A. 2015. Developing wine marketing strategies for the Mid-Atlantic region. The Pennsylvania State University, University Park, MS Thesis. https://etda.libraries.psu.edu/paper/27161/

Zhuang, J. (in progress). Empirical study of wine consumer characteristics and marketing strategies in the Mid-Atlantic Region. Rutgers – The State University of New Jersey, MS Thesis.

Peer-reviewed publications

Four manuscripts, based on data collected during Survey 1 and 2, are in the final stages of internal review before they are submitted to peer-reviewed journals. Additional manuscripts will be developed based on data collected in 2015 (Survey 3) and 2016 (Survey 4, part 1 and 2).

Received 9 April 2013
Revised 25 March 2014
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Agritourism consumers' participation in wine tasting events

An econometric analysis

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Abstract

Purpose – The purpose of this study is to determine the likelihood of a USA Mid-Atlantic region consumers' willingness to partake in a wine tasting event, an example of an agritourism activity, based on their responses to an Internet survey conducted from June 22 to 29, 2010.

Design/methodology/approach – Potential participants were screened and asked to participate if they resided in one of the states targeted (Delaware, New Jersey or Pennsylvania); were aged 21 years and older; were the primary food shopper for the household; and had previously attended an agritourism and/or direct marketing events or activities.

Findings – A logit model was developed based on responses from 972 consumers who participated in the 15-minute Internet survey to predict participation in wine tasting activity. Consumers who are more likely to attend an on-farm wine tasting event include those who learn about agritourism events through newspapers, think that the variety and price of produce is better at direct markets than supermarkets, are older than 50 years, have a graduate degree and are self-employed.

Research limitations/implications – Empirical results will help agritourism operators enhance marketing efforts and develop profitable on-farm agricultural activities by identifying consumer segments likely to participate in wine tourism activities.

Practical implications – This paper helps identify consumer segments that are more likely to participate in a wine tasting event and provides marketers with the ability to target likely buyers based on corresponding demographic characteristics.

Originality/value – This paper identifies likely wine tasting participants based on demographics, psychographics and behavioral characteristics.

Keywords Consumer behavior, Survey research, Alcoholic drinks, Logit/Probit/Tobit, Marketing strategy, Alcoholic drinks industry, Mid-Atlantic states, Wine tasting

Paper type Research paper

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Introduction

Small family farms in the USA (annual sales of <$250,000; Hoppe and Banker, 2010) recognize the need to broaden offerings in an attempt to remain or become economically sustainable. To do so, Tubene and Hanson (2002) indicated they must be creative and diversify their farm activities through value-added products and/or services, as well as identify new markets. One such activity is agritourism.

Agritourism is an agriculturally based direct marketing operation or educational experience, such as pick-your-own farm, agricultural fairs/festivals and school field trips, that brings visitors to a farm or a ranch. This activity promotes employment, income and sustains rural communities (Hall *et al.*, 2003; Kneafsey, 2000). It is an attractive option for increasing returns for on-farm activities (Bernardo *et al.*, 2004; Small Farm Center, 1999), providing a source of economic strength for rural farms and businesses, and offering higher margins from sales of value-added goods and services. For example, one-third of all farm operations in the UK support agritourism activities, and the percentage is even greater in France and Italy (Bernardo *et al.*, 2004). In the USA, New Jersey Farmers have increasingly received public support for their on-farm activities (Govindasamy *et al.*, 2002).

Research has shown, however, that agritourism may not be feasible and appropriate for every agricultural farm, as there is an increased level of record keeping, marketing strategies, labor requirements and other tasks. Furthermore, diversifying the farm operation to include agritourism may lead to safety issues, loss of privacy, liability issues and additional responsibilities (Tavernier *et al.*, 1996; Tassiopoulos *et al.*, 2004; Schilling *et al.*, 2006).

Deciding what agritourism activities could attract visitors can be a daunting task for any farmer. A team of researchers from the Mid-Atlantic region of the USA hypothesized that select agritourism activities may only appeal to certain consumer segments and that data needed to be collected to better inform farm businesses about potential opportunities and consumer participation. With the proliferation of wineries in the region, researchers were interested in investigating consumer attitudes and behaviors pertaining to wine tourism. Wineries are not mandated to sell their wine on premises or operate tasting rooms; however, tasting room visits were up by an average of 8 per cent in 2012 compared to that in 2011 (Fisher, 2013). As a potential profitable component of a winery's business operation, the primary objective of this study was to identify "who" participates in wine tourism based on demographic profiles, geography, behaviors and psychographics and what other agritourism activities that these consumers had participated in.

Consumer interest in agritourism

As a natural extension of direct marketing, growers are finding that in addition to fresh agricultural products, their customers have a genuine interest in the agricultural experience. This consumer interest can create additional income opportunities for farmers who utilize existing farm infrastructure in the provision of farm-related agritourism. Furthermore, as consumers understand the quality and value of sourcing fresh agricultural products directly from farmers, they are also open to patronizing other unique farm-based activities.

In 2007, approximately 23,350 farms received >$566 million in income from agritourism and recreational services including hunting, fishing, horseback riding and other on-farm activities (Thessen, 2007). US farms providing agritourism and recreational services generated an average income of $24,276 in 2007, an increase of 236 per cent from 2002 (NASS, 2007). Based on NSRE (2000-2002), a total of 82 million people visited farms one or more times, which included 20 million school children, and spent an average of $45 per trip and traveled an average of 80 miles. In 2002, 2,200 Vermont farms received $19.5 million from agritourism activities that represented approximately 4 per cent of the total gross farm income and was 86 per cent higher than agritourism income in 2000 (NASS, 2004). New Jersey farms obtained a total of $57.53 million in income from agritourism activities in 2006 (Schilling *et al.*, 2006), while agritourists in Pennsylvania spent approximately $120 per visit in 2004 (Ryan *et al.*, 2006).

Wine tasting as an agritourism activity

Visiting a winery tasting room, or wine tourism, is a recognized agritourism activity (Gold and Thompson, 2011; Wicks and Merrett, 2003) and allows consumers to enjoy a farm-produced product and further understand the farming experience (Dodd, 1995; Peters, 1997; Skinner, 2000). In 1999, there were 2,688 wineries in the USA (Hodgen, 2011), while in November 2010, the number increased to 6,785. The growth in number of wineries in Pennsylvania (144) and New Jersey (45) has matched the USA trend with Pennsylvania ranked 7th of the 50 states in terms of number of wineries, and New Jersey ranked 20th (Fisher, 2011).

In Pennsylvania, one of two states with “exclusive control over both the disruption and retail components” pertaining to alcohol sales, 81 per cent of wine is sold directly at the winery or winery outlet, hence dependence on wine tourism is significant (Dombrosky and Gajanan, 2013). Data from 2005 indicate that $>$ 800,000 winery visits occurred in Pennsylvania alone (MKF Research LLC, 2007).

In Europe, as well as in the USA, wine tourism has developed into wine roads or wine routes (Hall *et al.*, 2000). Farms that maintain vineyards can host tours and demonstrations, wine tastings and classes or events and festivals. On-farm wineries bring guests to rural areas where they spend the day or weekend tasting wine, which can provide opportunities for complementary businesses such as bed-and-breakfast facilities and restaurants (Collins, 2006). Therefore, incorporating wine tasting into business practices and experiential offerings can assist farmers with diversifying their farming operations, which may, in turn, bring more economic activity to rural areas.

As wine consumption in the USA is well recognized as being an integral part of the mainstream culture and is enjoyed by many, on a daily basis (Wine Intelligence LTD, 2011), sampling wines, learning about grape and wine production and purchasing wines (Tassiopoulos *et al.*, 2004) are widely recognized as being important wine tourism components. According to the 2010 Wine Market Council’s Consumer Tracking Study (Wine Market Council, 2010), just over a third (34.3 per cent) of US adults reported drinking wine, with a per capita adult consumption of 3.6 gallons (13.63 L) (Hodgen, 2011). Consumption frequency can be segmented even further into those who consume wine at least once a week (core wine drinkers, 20.4 per cent of the US adult population) and those who consume wine less frequently (marginal wine drinkers, 13.9 per cent).

Attracting consumers who are likely to visit wineries is crucial. Several efforts have been initiated by individual states to encourage consumers to visit one or more wine regions or trails. In 2012, viticulture, winery and tourism agencies and associations in Sonoma County, California, received $600,000 in funding to develop a logo and campaign to attract "experience-seekers, people who value events and are genuine, independent and adventurous," based on data collected from wineries and surveying consumers (Bussewitz, 2012).

Why investigate wine tourism trends in the Mid-Atlantic?

The Mid-Atlantic region of the USA has been and will continue to experience impressive population growth. Based on 2010 US census data, Pennsylvania (12.7 million) ranked 6th in population, New Jersey (8.8 million) ranked 11th and the population of Delaware was 897,934. The population of the three states was roughly 7.25 per cent of the total US population. Despite this small combined percentage, each of these states experienced growth since 2000 (3.4-14.6 per cent) and the US census projections, based on 2000 data, indicate that the collective population of these three states will increase to over two million people by 2030 (USA Census Bureau, 2005). Additionally, the three states, in part, contain two of the most populous metropolitan statistical areas (New York-Northern New Jersey-Long Island, NY-NJ-PA and Philadelphia-Camden-Wilmin gton, PA-NJ-DE-MD) in the country (Mackun and Wilson, 2011). With regard to percentage of residents that live in urban areas, New Jersey ranks the highest (92.24 per cent) with Pennsylvania (70.68 per cent) and Delaware (68.71 per cent) ranking lower (USA Census Bureau, 2010). It is suggested that as urban populations grow, the "divide between farmers and urban consumers" increases, and there is a greater risk of "misunderstandings and misconceptions about faming and agriculture" (Brieser Stout, 2007).

A report published by researchers in Michigan suggested that urban and suburban consumers who visit farms could transition into "long-term customers" and become advocates for the industry (Che *et al.*, 2005). Farmers have tremendous opportunities with regard to introducing new goods and services in an attempt to appeal to interested consumer segments. These activities, particularly in urbanizing areas, contribute to and enhance the overall quality of life by expanding recreational opportunities, diversifying the economic base, promoting retention of agricultural lands and open spaces and contributing to community development (Henderson and Linstrom, 1982; Linstrom, 1978; Govindasamy *et al.*, 1999).

Literature review

Wine tourism motivations and barriers

The positive impact of wine tourism on farmers' economic sustainability, the potential to benefit the greater community and encourage regional development (Hall and Mitchell, 2000) and what motivates consumers to travel to a winery have been investigated on a national and international scale. Data collected from Spanish wine consumers indicated that being able to taste wines produced at wineries, visiting wineries, wineries hours of operation were "long" and to buy wine at the winey were the main incentives to participate in wine tourism (Marzo-Navarro and Pedraja-Iglesias, 2009). Others have examined whether visiting wineries was a day activity or if the visit spanned two or more days. For some, as was discovered by Tassiopoulos *et al.* (2004) who focused on South African residents, a majority of respondents (73.2 per cent) treated the activity as a day trip.

It has been suggested that "wine tourism is rarely a discrete activity" (Charters and Ali-Knight, 2002). Knowledge gained from Cohen and Ben-nun (2009) showed that participants who had children under the age of 18 “strongly prefer family activities” compared to those residing in households without children. Tassiopoulos *et al.* (2004) reported a similar research outcome with the presence of children aged 6 to 15 years having an impact on wine tourism due to lack of “appropriate facilities.” Hence a greater percentage of participants with children in this age range were “low users” and were first-time wine tourism users or visited wineries less than once a year.

Wine tourist segmentations

Authors recognize that smaller producers may be well-versed in growing grapes and making wine but know less about who does/could consume their wine and what could inhibit wine-tourism development (Hall and Mitchell, 2000). For example, Houghton (2008) analyzed survey participants’ attitudes and behaviors to learn whether events such as wine festivals attract or deter a winery’s core customer or if these activities appeal to just the “novice.”

Segmenting survey participants based on responses allows winery managers and operators to determine if differences exist between groups and to use outcomes as the basis for identifying audiences and encouraging visits to the winery or region (Cohen and Ben-nun, 2009). Past segmentation has been based on:

- interest in wine;
- wine purchasing behavior;
- prior participation in wine tourism (Charters and Ali-Knight, 2002);
- how often they visit wineries;
- demographic characteristics (Cohen and Ben-nun, 2009); and
- whether participants had previously participated in wine tourism (Cohen and Ben-nun, 2009; Marzo-Navarro and Pedraja-Iglesias, 2009).

Tassiopoulos *et al.* (2004) found that a greater percentage of consumers aged 25 to 34 years were “medium users” (visited a wine route up to three times a year) and “high users” (visited more than four times a year). The authors indicated that these consumers have a greater disposable income and have devoted more time to wine tourism activities than their counterparts. “High users” also included individuals who had higher levels of education, were professionals or selected “other profession”, were married, had children under six years of age and were male.

Marzo-Navarro and Pedraja-Iglesias (2009) found only the income level to be significantly different between wine tourists and non-wine tourists. Their data revealed that wine tourists had a much higher income level than their counterparts which can assist with developing programs and activities for which a higher price can be charged.

Marzo-Navarro and Pedraja-Iglesias (2009) stated that defining the wine tourist is more important in regions where wine tourism is still in its infancy. A study conducted by Charters and Ali-Knight (2002) was initiated to better understand the Australia wine tourist. The authors site work by others, who segmented survey respondents based on demographic and psychographic characteristics, and indicated that wine tourism in Europe may “exhibit different features” than in “new producing regions”. The authors analyzed the research conducted in Italy and suggested that consumption behaviors and attitudes for 50-60-year-old Australians and New Zealanders may differ from Italian wine tourists in this age range.

Even within a country, differences can exist. Wine tourists in two separate regions of Australia, who participated in a study, were demographically and psychographically different in age, career level and wine interest and knowledge (Charters and Ali-Knight, 2002). Differences could very well assist winery tasting room staff to make assumptions about the level of engagement or involvement during the visit. Charters and Ali-Knight suggest that because one group appeared to be "less eager to learn about wine", they may be "less likely to expect a winery tour or to meet the winemaker."

National data are available as to demographics and psychographics of the US wine consumer:

- an affluent consumer (64 per cent have a household income of >$100,000);
- homeowner (87 per cent of wine consumers);
- married (75 per cent);
- between the ages of 35 and 65 years (74 per cent);
- college educated (47 per cent compared to 34 per cent of the general public); and
- with a greater per cent in management positions (28 per cent) and professional or technical occupations (51.3 per cent) compared to the general public (10.2 and 37.9 per cent, respectively) (Insel, 2009).

The question arises as to whether demographics and psychographics of US wine tourists mirror these data. Additionally, could demographics and psychographics of wine tourists who reside in the eastern USA differ from those of people who reside in California? Little, if any, research data have been published which provide responses to these questions. Therefore, this study was initiated to investigate behaviors, attitudes and demographic attributes that influence consumers to participate in on-farm wine tasting as a component of agritourism.

Methodology

Study design

A 15-minute Internet survey, conducted from June 22 to 29, 2010, gathered information from US Mid-Atlantic consumers who reported participating in direct marketing and agritourism activities. Participants were selected at random from a panel managed by a survey research company (Sampling International, LLC, Shelton, CT). Potential participants were screened and asked to participate if they:

- resided in Delaware, New Jersey or Pennsylvania;
- were aged 21 years and older;
- were the primary household food shopper; and
- had previously attended agritourism and direct marketing events or activities.

Panelists received an electronic consent statement along with a link to the survey developed by researchers and approved by the Office of Research and Sponsored Programs at Rutgers University (New Brunswick, NJ) and Office of Research Protections at The Pennsylvania State University (University Park, PA). After clicking on the hyperlink at the bottom of the statement, panelists were directed to www.surveymonky.com, where they responded to the four screener questions, after which they initiated the survey if they met the criteria. Of the questions asked, participants indicated whether they participated in wine tastings, an agritourism activity, and based on this question, a logit model was developed to predict participation in wine tasting activity.

Upon completion of the survey, each participant was entered into Survey Sampling International, LLC's $12,000 quarterly drawing to compensate them for their time. Survey questions were pre-tested and administered to a sample of 93 randomly selected Survey Sampling International, LLC panelists.

Model framework

The paper analyzes consumers' likelihood to participate in on-farm wine tasting activities within the random utility discrete choice framework. The logit model was selected because of its asymptotic characteristics that constrain the predicted probabilities to a range of zero to one. The estimation method utilizes the maximum likelihood estimation procedures characterized as they provide consistent parameter estimates that are asymptotically efficient.

The relationship between a dependent variable (consumer's participation in on-farm wine tasting activity) and socioeconomic characteristics is explored by modeling the indicator variable Zi for the ith consumer as a function of his/her socioeconomic characteristics as follows:

$$Z_i = \beta\mathbf{X}_i = \beta_0 + \beta_1 x_{i1} + \beta_2 x_{i2} + \ldots + \beta_k x_{ik} + v_i, \quad \mathrm{i} = 1, 2, \ldots, \mathrm{n} \tag{1}$$

where, xij denotes the jth demographic attribute of the ith respondent, $\beta = (\beta 0, \beta 1 \ldots, \beta k)$ is the parameter vector to be estimated and νi is the random error or disturbance term associated with the ith consumer. Under the logistic distributional assumption for the random term, the probability Pi (that the ith consumer participation in on-farm wine tasting activity) can be now expressed as:

$$P_i = F(Z_i) = F(\beta_0 + \sum_{j=1}^{k} \beta_j x_{ij}) = F(\beta\mathbf{X}_i) = \frac{1}{1 + \exp(-\beta\mathbf{X}_i)} \tag{2}$$

The estimated β-coefficients of equation (2) do not directly represent the marginal effects of the independent variables on the probability Pi that a consumer will participate in on-farm wine tasting activities. In the case of a continuous explanatory variable, the marginal effect of xj on the probability Pi is given by:

$$\partial P_i / \partial x_{ij} = [\beta_j \exp(-\beta\mathbf{X}_i)]/[1 + \exp(-\beta\mathbf{X}_i)]^2 \tag{3}$$

However, if the explanatory variable is qualitative or discrete in nature, $\partial P_{\mathrm{i}}/\partial \mathrm{x}_{\mathrm{ij}}$ does not exist. In such a case, the marginal effect is obtained by evaluating Pi at alternative values of xij. For example, in the case of a binary explanatory variable, xij that takes values of 1 and 0, the marginal effect is determined as:

$$\partial P_{\mathrm{i}} / \partial x_{ij} = P(x_{ij} = 1) - P(X_{ij} = 0) \tag{4}$$

For estimation purposes, in this model, one classification was eliminated from each group of variables to prevent perfect collinearity.

Based on past literature, hypotheses were constructed to predict which behavioral and demographic characteristics increased the likelihood of a consumer participation in on-farm wine tasting activity. Those who participate in on-farm wine tasting activities were predicted to be more likely to determine and quantify the effects of different factors influencing customers' decisions to visit farms and to provide an estimation of the recreational value of the rural landscape in the USA (Carpio *et al.*, 2008). The following empirical model is specified to capture the relationship between consumers' behavioral and demographic variables and participation in on-farm wine tasting activities. The definitions of variables are presented in Table I.

$$\begin{aligned}\text{WINE\_TST} = {} & \beta_0 + \beta_1\,\text{FVEXPMONTH} + \beta_2\,\text{MILESPYO} + \beta_3\text{MILESFMKT} \\ & + \beta_4\,\text{MILESOFMKT} + \beta_5\,\text{MILESCSA} + \beta_6\,\text{BILLBOARD\_RSADV} \\ & + \beta_7\,\text{NEWSPAPERADV} + \beta_8\,\text{NOFVISITS} + \beta_9\,\text{EXPAGRITOURISM} \\ & + \beta_{10}\,\text{NOFLOCATIONS} + \beta_{11}\,\text{MILESAGRITOURISM} + \beta_{12}\,\text{QUALITY} \\ & + \beta_{13}\,\text{VARIETY} + \beta_{14}\,\text{PRICE} + \beta_{15}\,\text{WTBLOCAL} + \beta_{16}\,\text{WTBORGANIC} \\ & + \beta_{17}\,\text{WTBGM} + \beta_{18}\,\text{SAMEDAY} + \beta_{19}\,\text{SAMELOCATION} \\ & + \beta_{22}\,\text{10YEARSLIVE} + \beta_{23}\,\text{GARDEN} + \beta_{24}\,\text{WTPPRESERVE} \\ & + \beta_{20}\,\text{URABN} + \beta_{21}\,\text{SUBURBAN} + \beta_{25}\,\text{NOFPEOPLE} + \beta_{26}\,\text{MALE} \\ & + \beta_{27}\,\text{50YEARSOLD} + \beta_{28}\,\text{HIGHSCHOOL} + \beta_{29}\,\text{2YEARCOLLGE} \\ & + \beta_{30}\,\text{4YEARCOLLEGE} + \beta_{31}\,\text{GRADUATE} + \beta_{32}\,\text{SELFEMPLOY} \\ & + \beta_{33}\,\text{HOMEMAKER} + \beta_{34}\,\text{CAUCASIAN} + \beta_{35}\,\text{INC100KPLUS}\end{aligned}$$

Results

Participant demographics

Of the 1,154 people who met the screener criteria, 1,134 participants completed the survey and 972 were included in the analysis based on being 21 years and older, the legal drinking age in the USA. Of these consumers, 121 resided in Delaware, 358 in New Jersey and 493 in Pennsylvania and had a mean household size of 2.86 persons, with 24.8 per cent of participants indicating they were males (Table II). With regard to children, 59.5 per cent of the respondents indicated no children lived in the household, 19.4 per cent had one child and 21.1 per cent had more than one child. Most respondents (68.8 per cent) lived in a suburban community, followed by rural (20.4 per cent) and urban (10.8 per cent). Because no specific definition of the location was provided to respondents, they were asked to self-identify their location. Pertaining to age, 29.7 per cent of respondents were between 36 and 50 years of age, 40.2 per cent were older than 50 (AGE > 50) and the remaining 30.1 per cent were aged 35 years and younger. In terms of education, 27.1 per cent of respondents had graduated from high school, 27 per cent completed a two-year college degree and 45.4 per cent completed either a four-year college or graduate degree. Slightly over half, 54.5 per cent of respondents were employed by others. Over half of participants reported having incomes of \$60,000 and greater; 18.8 per cent between \$60,000 and \$80,000; 13.2 per cent between \$80,000 and \$100,000; and 18.8 per cent >\$100,000. No *a priori* expectations were made toward behavioral and demographic variables.

Variable	Description	Mean units/ per cent	Standard deviation units/per cent
WINE_TST	1 = participated in wine tasting agritourism activity; 0 = otherwise	0.37	0.48
FVEXPMONTH	Monthly fruit and vegetable expenditure	56.13	50.98
MILESPYO	Average miles traveled to Pick-Your-Own operation	9.90	10.62
MILESFMKT	Average miles traveled to a farmers' market	6.94	6.37
MILESOFMKT	Average miles traveled to on-farm market	8.07	8.02
MILESCSA	Average miles traveled to community-supported agriculture location	2.15	4.63
BILLBOARD_RSADV	1 = learned through billboard and roadside sign advertisements; 0 = otherwise	0.38	0.49
NEWSPAPERADV	1 = learned through newspaper advertisements; 0 = otherwise	0.53	0.50
NOFVISITS	Annual number of agritourism visits	2.97	2.42
EXPAGRITOURISM	Annual average amount spent on agritourism	33.93	24.12
NOFLOCATIONS	Number of agritourism locations visited in a year	2.18	1.31
MILESAGRITOURISM	Average miles traveled to an agritourism location	19.81	16.55
QUALITY	1 = thought produce quality was better at direct markets than supermarkets; 0 = otherwise	0.90	0.30
VARIETY	1 = thought produce variety was better at direct markets than supermarkets; 0 = otherwise	0.58	0.49
PRICE	1 = thought produce price was better at direct markets than supermarkets; 0 = otherwise	0.61	0.49
WTBLOCAL	1 = willing to buy locally grown produce at direct markets; 0 = otherwise	0.97	0.18
WTBORGANIC	1 = willing to buy organic produce at direct markets; 0 = otherwise	0.67	0.47
WTBGM	1 = willing to buy genetically modified produce at direct markets; 0 = otherwise	0.16	0.37
SAMEDAY	1 = made agritourism visitation decisions on the day of the event; 0 = otherwise	0.15	0.35
SAMELOCATION	1 = visited same agritourism locations every year; 0 = otherwise	0.83	0.38
10YEARSLIVE	1 = lived in current location for more than ten years; 0 = otherwise	0.47	0.50
GARDEN	1 = had own vegetable garden; 0 = otherwise	0.48	0.50
WTPPRESERVE	1 = willing to pay more to attend agritourism events to preserve farmland; 0 = otherwise	0.67	0.47
URABN	1 = respondent lived in urban location; 0 = otherwise	0.11	0.31
SUBURBAN	1 = suburban resident; 0 = otherwise	0.69	0.46
NOFPEOPLE	Household size	2.86	1.38
MALE	1 = male; 0 = otherwise	0.25	0.43
50YEARSOLD	1 = > 50 years old; 0 = otherwise	0.40	0.49
HIGHSCHOOL	1 = high school graduate; 0 = otherwise	0.27	0.44
2YEARCOLLGE	1 = two-year college education; 0 = otherwise	0.27	0.44
4YEARCOLLEGE	1 = four-year college education; 0 = otherwise	0.29	0.46
GRADUATE	1 = graduate degree; 0 = otherwise	0.16	0.37
SELFEMPLOY	1 = self-employed; 0 = otherwise	0.08	0.27
HOMEMAKER	1 = homemaker; 0 = otherwise	0.18	0.38
CAUCASIAN	1 = Caucasian; 0 = otherwise	0.89	0.31
INC100KPLUS	1 = annual income > 100,000; 0 = otherwise	0.19	0.39

Table I.
Description of explanatory variables

Demographic characteristics	Frequency[a]	Percentage
Gender ($n = 941$)		
Female	708	75.2
Male	233	24.8
Age range ($n = 972$)		
21-35 years	292	30.0
36-50 years	289	29.7
51-65 years	318	32.7
Older than 65 years	73	7.5
Education level ($n = 970$)		
Less than high school education	5	0.5
High school graduate	263	27.1
Two-year college degree	262	27.0
Four-year college or graduate degree	440	45.4
2009 Household income ($n = 967$)		
Less than $20,000	75	7.8
$20,000 to $39,999	185	19.1
$40,000 to $59,999	215	22.2
$60,000 to $79,999	182	18.8
$80,000 to $99,999	128	13.2
$100,000 or more	182	18.8
Household size ($n = 970$)		
Single-adult household	134	13.8
Two individuals	335	34.5
Three or more individuals	501	51.7
Number of children in the household ($n = 968$)		
No children	576	59.5
One child	188	19.4
Two or more children	204	21.1
Employment status ($n = 904$)		
Retired	133	14.7
Self-employed	72	8.0
Employed by others	493	54.5
Homemaker	161	17.8
Student	45	5.0
Residence ($n = 972$)		
Delaware	121	12.4
New Jersey	358	36.8
Pennsylvania	493	50.7
Community ($n = 971$)		
Urban	105	10.8
Suburban	668	68.8
Rural	198	20.4
Number of years at current residence ($n = 967$)		
Less than 1 year	59	6.1
1-3 years	148	15.3
4-5 years	113	11.7
6-10 years	192	19.9
11-20 years	198	20.5
$>$ 21 years	257	26.6
Participated in wine tasting activity ($n = 972$)	362	37.2

Note: [a] Frequencies may not equal 972, as participants were allowed to not answer questions

Table II.
Participant demographic characteristics

Over one-third (37.2 per cent) of respondents had participated in an on-farm wine tasting activity (Table II). Participants were also asked to indicate what other direct marketing and agritourism activities they had participated in (Table III). Activities selected by more than half of participants included nature walks (53.6 per cent selecting this activity); visit a Pick-Your-Own farm (62.2 per cent); participate in hay rides (67.1 per cent); and travel to on-farm markets to purchase fruits, vegetables, meat and other farm products (67.1 per cent). Activities that were selected by less than a quarter of participants included on-farm camping (7.2 per cent), nature retreat (11.3 per cent), on-farm concerts (12.7 per cent), farm produce tasting (22.1 per cent) and farm tour (24.9 per cent).

Specific to wine tasting activities, 37.2 per cent of respondents had previously participated in wine tasting activities (WINE_TST) as a part of an agritourism visit. On average, each respondent visited an agritourism site 2.97 times per year (NOFVISITS) (Table I). Among survey respondents, 10.8 and 69 per cent lived in urban (URBAN) and suburban (SUBURBAN) areas, respectively. Approximately 47.1 per cent of respondents lived at their residence for more than ten years (10YEARSLIVE). When respondents were asked if they were willing to pay a higher price for products and attend events or activities if the money was used to help preserve farmland and local agricultural producers, 66.9 per cent responded positively (WTPPRESERVE).

The logistic regression model results are presented in Tables IV and V. Maximum likelihood results as well as prediction success rates are presented in Table IV, and the coefficients, *t*-ratio and change in marginal probabilities are shown in Table V. Significance of the independent variables is tested at 1, 5, and 10 per cent levels and are marked with an asterisk, as noted in Table V. The goodness of fit for the model is shown by McFadden's R^2 of 0.06. R^2 values typically are not high for cross-sectional data (Kennedy, 1998; Nayga and Capps, 1994; Kmenta, 1971). Approximately 66 per cent of

Agritourism activity	Frequency	Percentage
On-farm camping	26	7.2
Nature retreat	41	11.3
On-farm concerts	46	12.7
Farm produce tasting	80	22.1
Farm tour	90	24.9
Fishing	95	26.2
School field trip to a farm	109	30.1
Bed and breakfast	110	30.4
Horseback riding	117	32.3
Agricultural fairs/festivals	161	44.5
Purchase ornamental plants at a nursery	170	47.0
Corn maze	174	48.1
On-farm Halloween activities	174	48.1
Visit farm animals	177	48.9
Nature walk	194	53.6
Pick-your-own farm	225	62.2
Hay rides	243	67.1
On-farm market to purchase farm products	243	67.1

Table III.
Other activities wine tasting room visitors (n = 362) reported participating in

survey respondents were correctly classified as respondents who participated in wine tasting, an agritourism activity.

As can be seen in Table V, of the 35 explanatory variables used in the logit model, 14 were significant. Among significant variables, seven positively contribute toward on-farm wine tasting activity and seven negatively impact wine tasting activities. Explanatory variables can be broadly classified under three categories, namely, behavioral attributes, preference attributes and demographic attributes.

Behavioral attributes

Eleven explanatory variables can be grouped under behavioral attributes classification:

(1) monthly fruit and vegetable expenditure (FVEXPMONTH);
(2) average miles traveled to a Pick_Your_Own operation (MILESPYO);
(3) average miles traveled to farmers' market (MILESFMKT);
(4) average miles traveled to an on-farm market (MILESOFMKT);
(5) average miles traveled to a community-supported agriculture location (MILESCSA);
(6) those who learned about agritourism from billboards and roadside sign advertisements (BILLBOARD_RSADV);
(7) those who learned about agritourism through newspaper advertisements (NEWSPAPERADV);
(8) number of annual visits to an agritourism location (NOFVISITS);
(9) average annual amount spent at an agritourism location (EXPAGRITOURISM);
(10) number of agritourism locations visited in a year (NOFLOCATIONS); and
(11) average miles traveled to an agritourism location (MILESAGRITOURISM).

Among these 11 variables, five significantly contributed toward willingness to participate in on-farm wine tasting activities. Those who learned about agritourism events through newspapers and traveled more miles to an agritourism location positively contributed toward likelihood of participating in on-farm wine tasting events. Miles traveled to an on-farm market, learning about agritourism thorough billboards and roadside signs and number of agritourism locations visited in a year negatively contributed toward likelihood of participating in a wine tasting agritourism event. Those who learned about agritourism through billboards and roadside signs were 5 per cent less likely to participate in a wine tasting agritourism event compared to those who learned through other advertisements.

	Predicted		
Actual value	0	1	Correct total
0	552 (57 per cent)	58 (6 per cent)	610 (63 per cent)
1	276 (28 per cent)	86 (9 per cent)	362 (37 per cent)
Total	828 (85 per cent)	144 (15 per cent)	972 (100.00 per cent)

Notes: Number of correct predictions: 638; Percentage of correct predictions: 77; McFadden R^2: 0.06; Chi-squared: 75.28; df: 35; Overall model significance: 0.00

Table IV. Logit model predictive accuracy

Table V.
Respondents agritourism participation in wine tasting: logit model estimates

Variable	Coefficient	Standard error	*t*-ratio	Probability	Marginal change
Constant	−0.9394	0.4686	−2.0050	0.0450	
FVEXPMONTH	0.0009	0.0007	1.3390	0.1807	
MILESPYO	0.32D−04	0.0004	0.0930	0.9261	
MILESFMKT	0.0004	0.0004	1.0080	0.3136	
MILESOFMKT*	−0.0005	0.0003	−1.6340	0.1022	−0.0001
MILESCSA	0.0002	0.0003	0.6510	0.5148	
BILLBOARD_RSADV*	−0.2132	0.1159	−1.8390	0.0659	−0.0517
NEWSPAPERADV*	0.2133	0.1159	1.8400	0.0658	0.0517
NOFVISITS	−0.0003	0.0004	−0.6960	0.4866	
EXPAGRITOURISM	−0.0004	0.0004	−1.0460	0.2956	
NOFLOCATIONS*	−0.0007	0.0004	−1.7770	0.0755	−0.0002
MILESAGRITOURISM*	0.0009	0.0005	1.8060	0.0710	0.0002
QUALITY	0.3907	0.2698	1.4480	0.1476	
VARIETY*	0.2668	0.1530	1.7440	0.0812	0.0646
PRICE**	0.3022	0.1530	1.9750	0.0483	0.0732
WTBLOCAL	−0.3098	0.3944	−0.7850	0.4322	
WTBORGANIC	−0.0010	0.0008	−1.3190	0.1870	
WTBGM	0.0001	0.0008	0.1300	0.8966	
SAMEDAY	0.0006	0.0010	0.6050	0.5449	
SAMELOCATION	−0.0002	0.0011	−0.1580	0.8742	
10YEARSLIVE	0.37D−04	0.0010	0.0380	0.9693	
GARDEN	−0.0013	0.0009	−1.3980	0.1622	
WTPPRESERVE	0.0400	0.1543	0.2590	0.7953	
URABN**	−0.5575	0.2790	−1.9980	0.0457	−0.1351
SUBURBAN	−0.2155	0.1773	−1.2150	0.2243	
NOFPEOPLE	0.0033	0.0049	0.6820	0.4951	
MALE	0.0002	0.0004	0.4810	0.6307	
50YEARSOLD**	0.3452	0.1455	2.3730	0.0177	0.0839
HIGHSCHOOL**	−0.2318	0.1230	−1.8850	0.0594	−0.0562
2YEARCOLLGE**	−0.2397	0.1208	−1.9840	0.0472	−0.0581
4YEARCOLLEGE	0.1656	0.1164	1.4220	0.1550	
GRADUATE**	0.3057	0.1430	2.1380	0.0325	0.0741
SELFEMPLOY**	0.3143	0.1478	2.1270	0.0334	0.0762
HOMEMAKER**	−0.3142	0.1478	−2.1260	0.0335	−0.0761
CAUCASIAN	0.0007	0.0006	1.2380	0.2158	
INC100KPLUS	0.0010	0.0012	0.8630	0.3884	

Notes: **Significant at 5 per cent; *Significant at 10 per cent

Preference attributes

Eleven explanatory variables that come under preference attributes were:

(1) those who thought that produce quality was better at direct markets than supermarkets (QUALITY);

(2) those who thought produce variety was better at direct markets than supermarkets (VARIETY);

(3) those who thought produce price was better at direct markets than supermarkets (PRICE);

(4) those willing to buy locally grown produce at direct markets (WTBLOCAL);
(5) those willing to buy organic produce at direct markets (WTBORGANIC);
(6) those willing to buy genetically modified produce at direct markets (WTBGM);
(7) those who made agritourism visitation decisions on the day of the event (SAMEDAY);
(8) those who visited the same agritourism location every year (SAMELOCATION);
(9) those who lived in their current location for more than ten years (10YEARSLIVE);
(10) those who had a home garden (GARDEN); and
(11) those willing to pay more for agritourism events to preserve farmland (WTPPRESERVE).

Among the 11 explanatory variables that come under preference attributes, two significantly influenced willingness to participate in a wine tasting agritourism event. Those who thought that produce variety was better at direct markets than supermarkets were 6.5 per cent more likely to participate in a wine tasting agritourism event compared to those who thought otherwise. Similarly, those who thought that produce price at direct markets was better than supermarkets were 7.3 per cent more likely to participate in a wine tasting agritourism event.

Demographic attributes

Thirteen explanatory variables, namely:

(1) those who lived in an urban location (URBAN);
(2) were male (MALE);
(3) were > 50 years old (50YEARSOLD);
(4) had a high school education (HIGHSCHOOL);
(5) had a two-year college education (2YEARCOLLEGE);
(6) had a four-year college education (4YEARCOLLEGE);
(7) or had a graduate degree (GRADUATE);
(8) were self-employed (SELFEMPLOY);
(9) were homemakers (HOMEMAKERS);
(10) were Caucasians (CAUCASIAN);
(11) those who earned >$100,000 per year (INC100KPLUS) were classified under demographic attributes;
(12) who lived in suburban location (SUBURBAN); and
(13) total number of person in the family (NOFPEOPLE).

Among these 13 variables, seven significantly influenced willingness to participate in a wine tasting agritourism event. Three variables, 50YEARSOLD, GRADUATE and SELFEMPLOY, positively influenced participation. On the other hand, four variables, URBAN, HIGHSCHOOL, 2YEARCOLLEGE and HOMEMAKER, negatively contributed toward willingness to participate in a wine tasting event. In particular, those who lived in urban areas were 13.5 per cent less likely to participate in on-farm wine tasting events compared to rural residents.

On the other hand, variables 50YEARSOLD, GRADUATE and SELFEMPLOY positively contributed toward participation in a wine tasting agritourism event. Specifically, those who were older than 50 years were 8.4 per cent more likely to participate in a wine tasting event. Similarly, college graduates were 7.4 per cent more likely to participate in a wine tasting event compared to those who have less than high school education. Self-employed persons were also 7.6 per cent more likely to participate in a wine tasting event compared to retired participants, students and those employed by others.

Conclusions

According to The Lang Research Inc. (2001) survey index, 12.9 per cent of adult Canadians and 17.9 per cent of adult Americans had a high level of interest in wine-and cuisine-related travel, while an additional 17.2 per cent of Canadians and 17.2 per cent of Americans had moderate interest. As the percentage of consumers who consume wine increases, so might the percentage of those interested in participating in an on-farm wine tasting activity. Therefore, it is imperative to investigate consumer behaviors and attitudes pertaining to agritourism activity to help farmers understand if they should and how they could incorporate this activity into their business model.

This study was conducted to explore consumer participation in wine tasting activity based on participants' behavioral and demographic characteristics. Survey results indicated that 37.2 per cent respondents participated in on-farm wine tasting activities. Based on the logit model, farmers, marketers and others involved in planning on-farm wine tasting events and activities should further investigate what appeals to and could attract individuals who were more likely to participate in this activity; those who learned about agritourism events through newspapers travel more miles to visit an agritourism activity, think produce variety is better at direct markets than supermarkets, believe produce prices are better at direct markets than supermarkets, are aged 50 years and older, are college graduates and are self-employed individuals.

Quite a bit can be learned from both what positively and negatively influences likelihood to participate in an on-farm wine tasting activity. How consumers learn about or become aware of wine tastings, winery's location, event hours or related leisure activities is important. Based on this study, participants who learned about a wine tasting event through billboards and roadside stands were likely to participate. While billboards are often positioned along interstate roads, it may be possible that speed limits or traffic limit participants from noticing these advertisements. Roadside signs, typically located at the farm, are only seen by those who drive by the actual farm. On the other hand, those who learned about the agritourism through newspapers were 5 per cent more likely to participate in an agritourism event.

In a densely populated state, like New Jersey, many consumers commute hours to work which reduces time to participate in leisure activities. As a result, participants who lived in urban areas, who may consider time as being a scarce commodity, were less likely to participate possibly due to being required to travel distances to attend.

Participants who were older than 50 years of age and self-employed were more likely to participate. Perhaps older participants were more established in their careers than their younger counterparts, and could quite possibly have a higher level of income. Those who were self-employed may have flexible schedules that can be rearranged to attend leisure activities. While retirees may also have flexibility in scheduling time commitments, if they are on a fixed income, they may not have the income to participate in an on-farm wine tasting.

Results can help local wineries enhance their on-farm profitability and offer programs and activities that best appeal to these audiences. There are, however, a few limitations to the data presented:

- whether profiles and behaviors of winery tasting room visitors in other regions of the USA mimics what was discovered in this study; and
- the use of an Internet survey might result in some selection bias.

According to the Pew Internet & American Life Project (2013), however, 81 per cent of US consumers aged 18 and older have Internet access.

Further research into the demographic profiles and consumer behavioral characteristics and their perceptions toward the complete wine tasting experience will benefit the entire agritourism industry and provide farmers with ideas on how to enhance marketing efforts and develop profitable on-farm agricultural activities. As with research conducted by Tassiopoulos *et al.* (2004) who studied attitudes and behaviors of survey participants who visited wine regions in South Africa, this study also "provides critical information" in that little, if any, information is available that describes the wine tourist in Delaware, New Jersey and Pennsylvania.

Additional studies should be conducted to continue investigating what promotions, including social media or efforts initiated by the winery itself, appeal to wine tourists and what specific wine tasting activities and complementary activities should be offered to encourage wine consumers to travel to the farm for this activity. Other possible research studies could investigate the likelihood to participate in an event at eastern USA wineries based on wine knowledge, as has been reported by other researchers. Data pertaining to Delaware, New Jersey and Pennsylvania wine consumers' are lacking, and there is a great need to collect, analyze and disseminate data to stakeholders.

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Strategies for encouraging tasting room visits: Results from a study conducted with mid-Atlantic wine consumers

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Penn State **Extension**

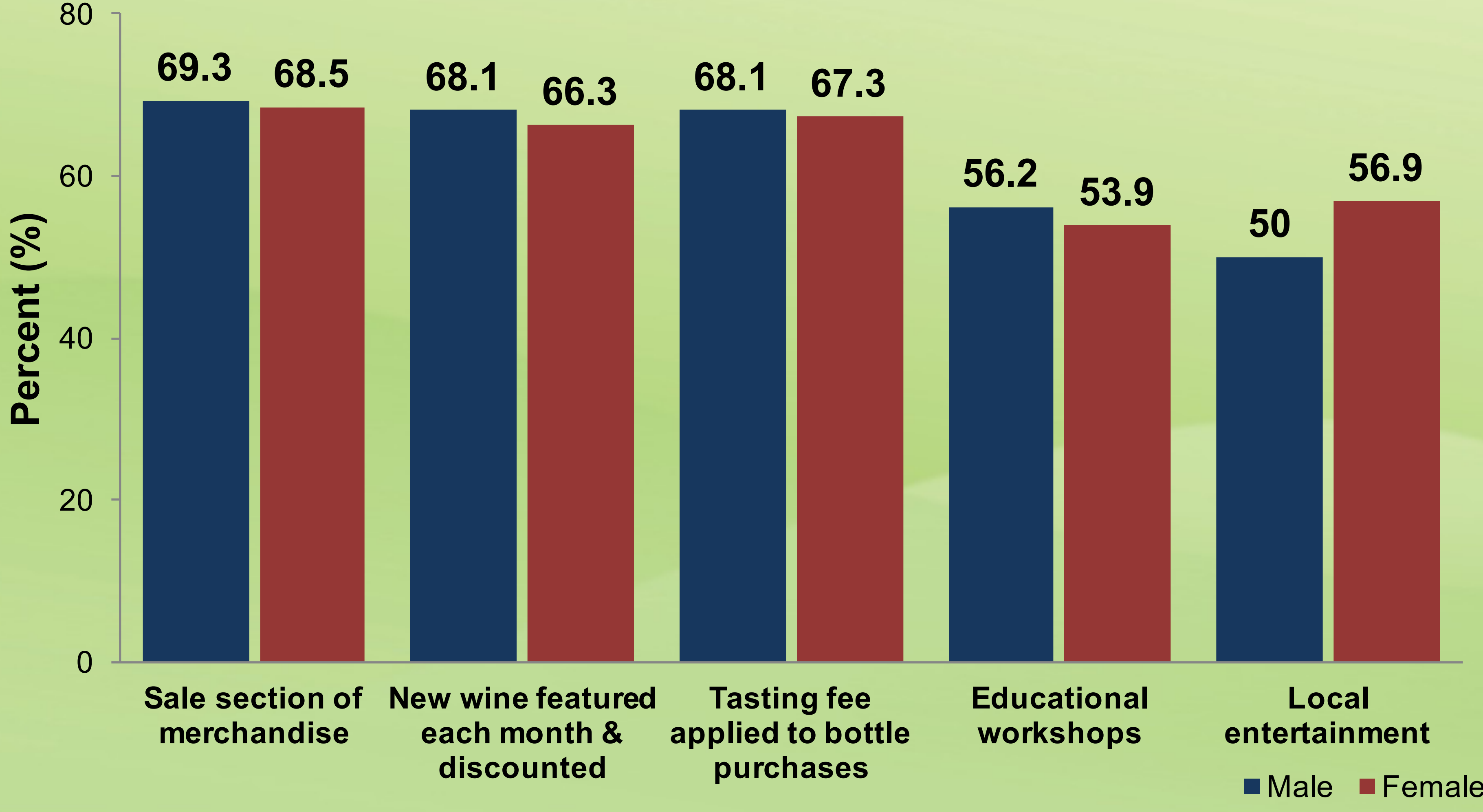
Strategies for encouraging tasting room visits

- Tasting room events, activities, and festivals
- New Jersey tasting room visitors
- Social media use and strategies for winery tasting rooms
- What we will focus on in our fourth consumer survey

Events, activities, and festivals

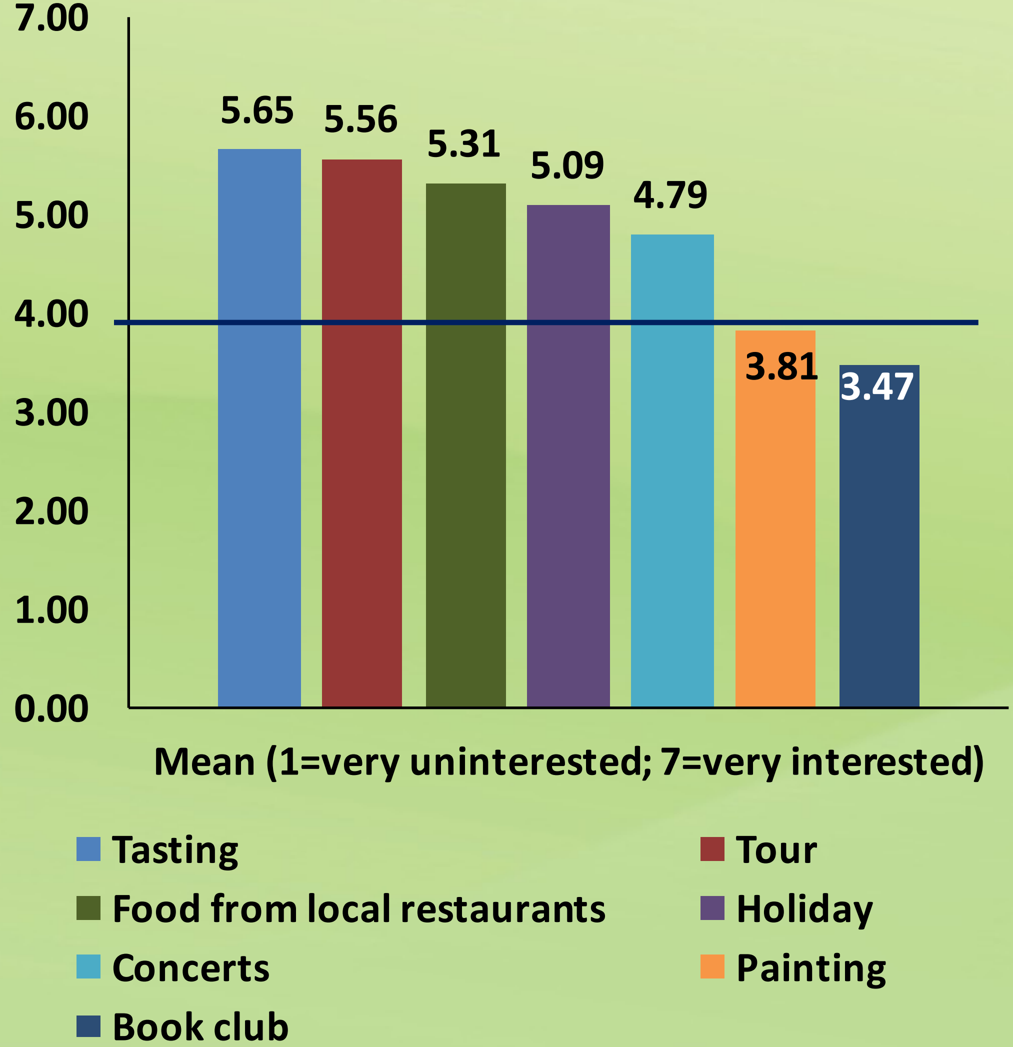
Penn State **Extension**

What would encourage participants to visit a winery tasting room



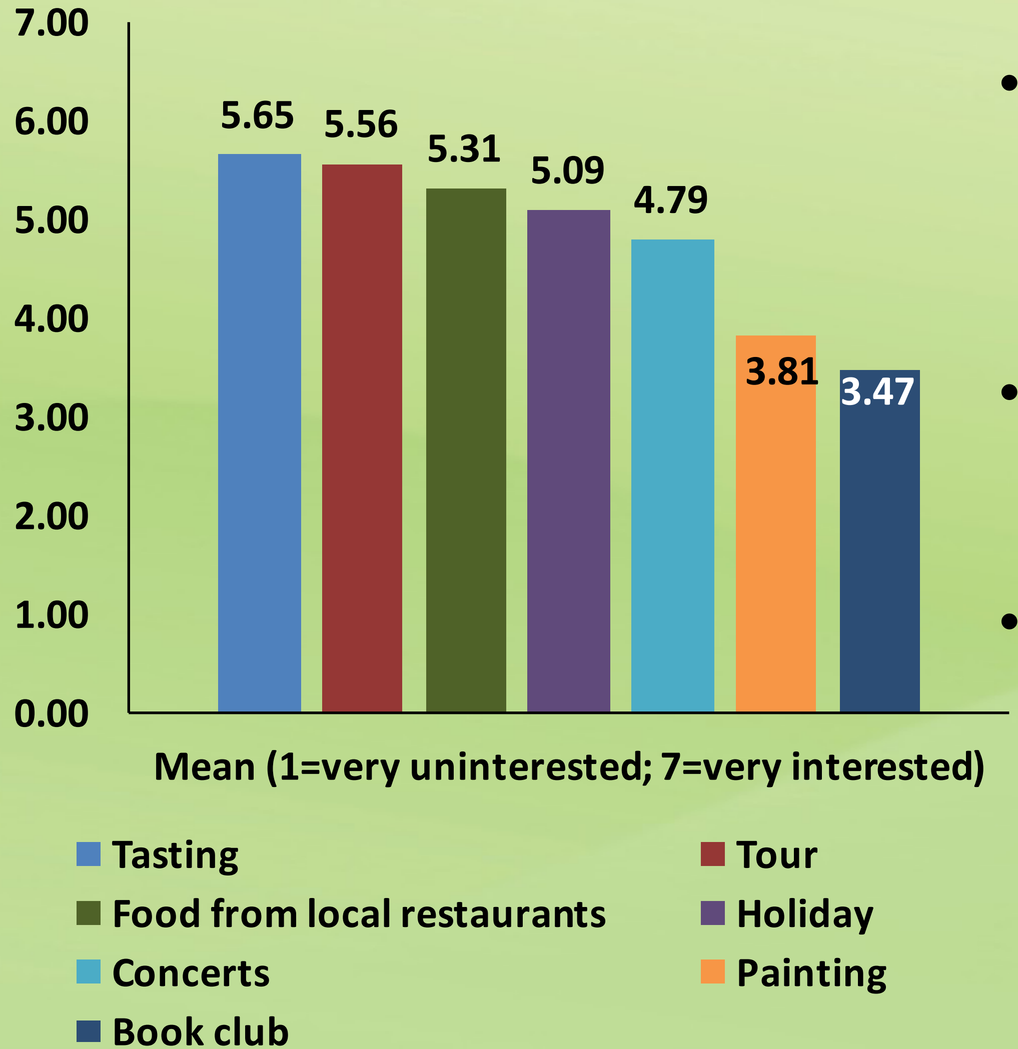
Penn State **Extension**

Interest in visiting a winery tasting room with the following events and activities



Penn State **Extension**

Interest in visiting a winery tasting room with the following events and activities



- All events/activities were of less interest to participants age 65 and older
- No differences between males and females
- Except for concerts, all events/activities were of more interest to Super core than Marginal wine consumers

Slightly over half (57.9%) of participants **had never** attended a wine festival

Nearly three-quarters (73.2%) of these participants **would consider attending one** in the future

Why haven't these participants attended in the past?

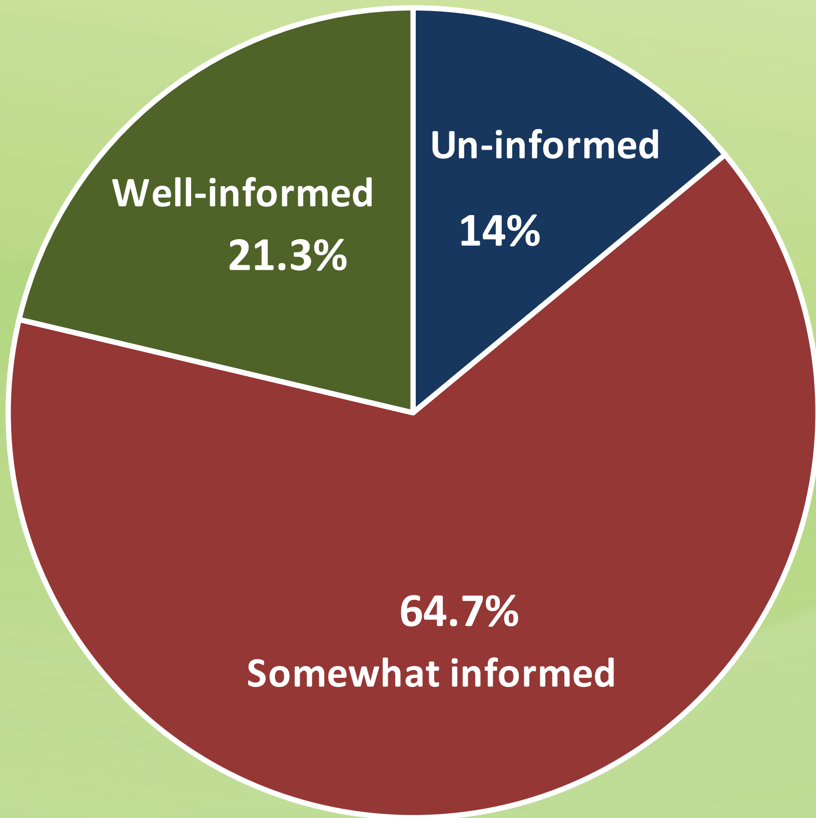
Reason	% who selected	Reason	% who selected
Distance needed to travel to attend	36.4%	Potential for poor weather	15.5%
Price of admission	31.5%	Would need to pay for child care	11.9%
Date and/or time the festival was held	27.4%	Restrooms not enough/not clean	9.6%
Parking/transport to the festival	24.9%	Food options offered	6.1%
Crowded/long lines	23.5%	Number of wineries attending (too many/few) or winery attending	4.9%
No family/friends interested in attending	21.1%	Festival reputation	4.7%
No interest in attending	16.2%	Entertainment was not offered	3.1%

Questions to ask customers and tasting room visitors

- What activities and events would encourage you to visit the tasting room?
- Based on how far you need to travel to our tasting room – would you be interested in attending "X" event on weeknights? On the weekend?
- What local bands or entertainers would you suggest we ask to perform at the winery?
- What local restaurants do you enjoy eating at?

New Jersey tasting room visitors

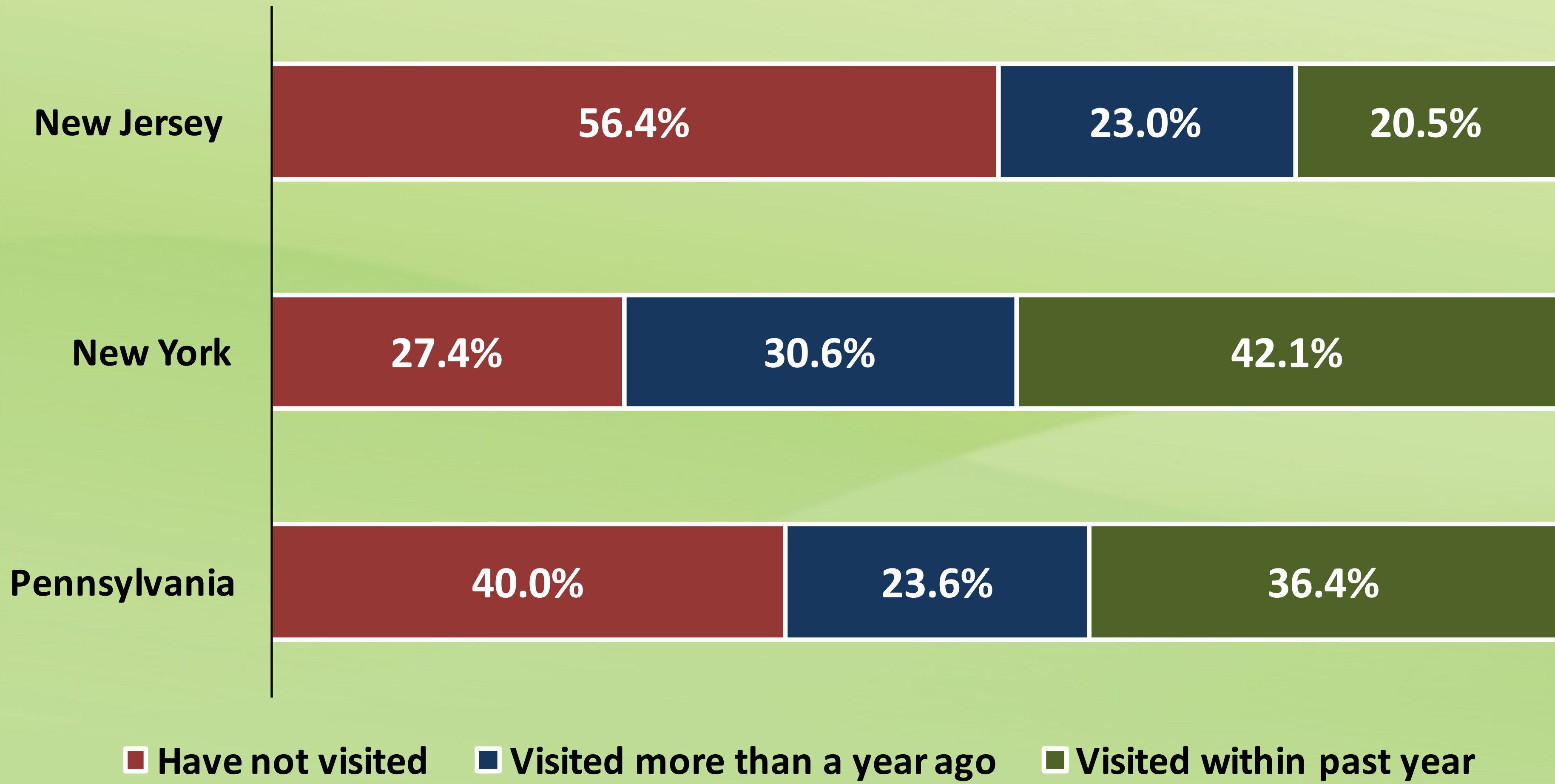
How informed did participants feel they were about wineries in their state/local area?



Responses for all participants

- 54.8% (n=464) of participants visited tasting rooms in the past
- Of these participants, 88.8% (n=412) had visited a tasting room in one or more of the following states: New Jersey, New York, and Pennsylvania

Of these 412 participants, what percent visited tasting rooms in each of the states and when did they last visit?



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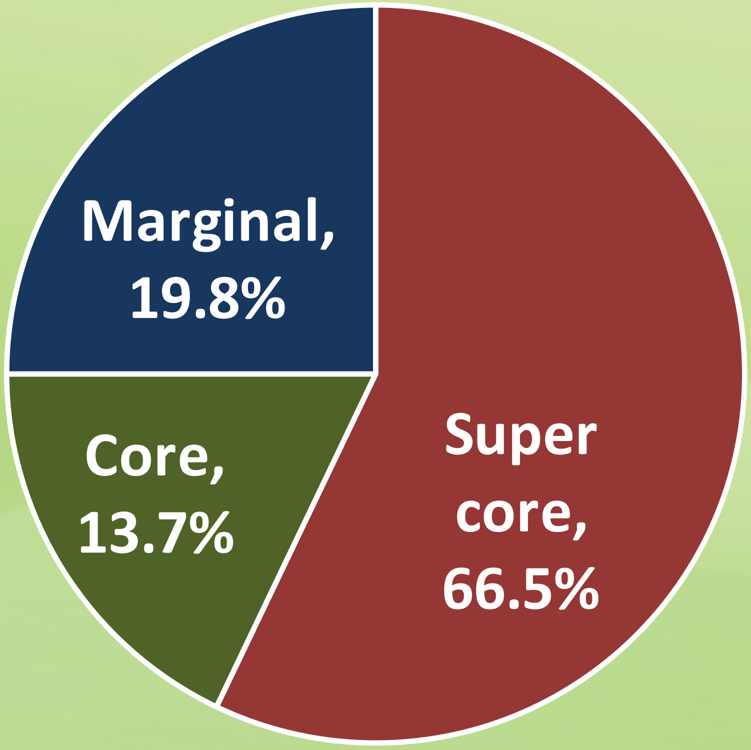
25.1% (n=212) of our participants had visited a winery tasting room in New Jersey to sample and/or purchase wine

Wine consumption frequency of NJ tasting room visitors



New Jersey tasting room visitor state of permanent residence and percent in each age range

- New Jersey: 33.0%
- New York: 37.3%
- Pennsylvania: 29.7%

- Age 21 to 24 years: 14.6%
- 25 to 34: 22.6%
- 35 to 44: 21.2%
- 45 to 64: 35.5%
- 65 and older: 16.0%

New Jersey tasting room visitors

Percent who purchase bottles of New Jersey wine to be consumed in their home for:	
Everyday wine consumption	Special occasions/ entertaining
25.5%	29.4%

Who they visited NJ tasting rooms with:	
Spouse/partner	75.0%
Friend or group of friends	57.4%
Family members age 21 and older	29.5%

What is important to NJ tasting room visitors:

Located at the winery/tasting room:

- Light snacks available for purchase: 69.7%
- Activities and/or events: 52.1%
- Restaurant: 51.7%
- Gift shop/items for purchase: 49.8%
- Lodging: 28.0%

Located in close proximity to the winery/tasting room:

- Restaurants: 67.6%
- Shopping: 56.0%
- Lodging: 50.5%
- Breweries and/or distilleries: 43.4%
- Other winery tasting rooms: 42.7%

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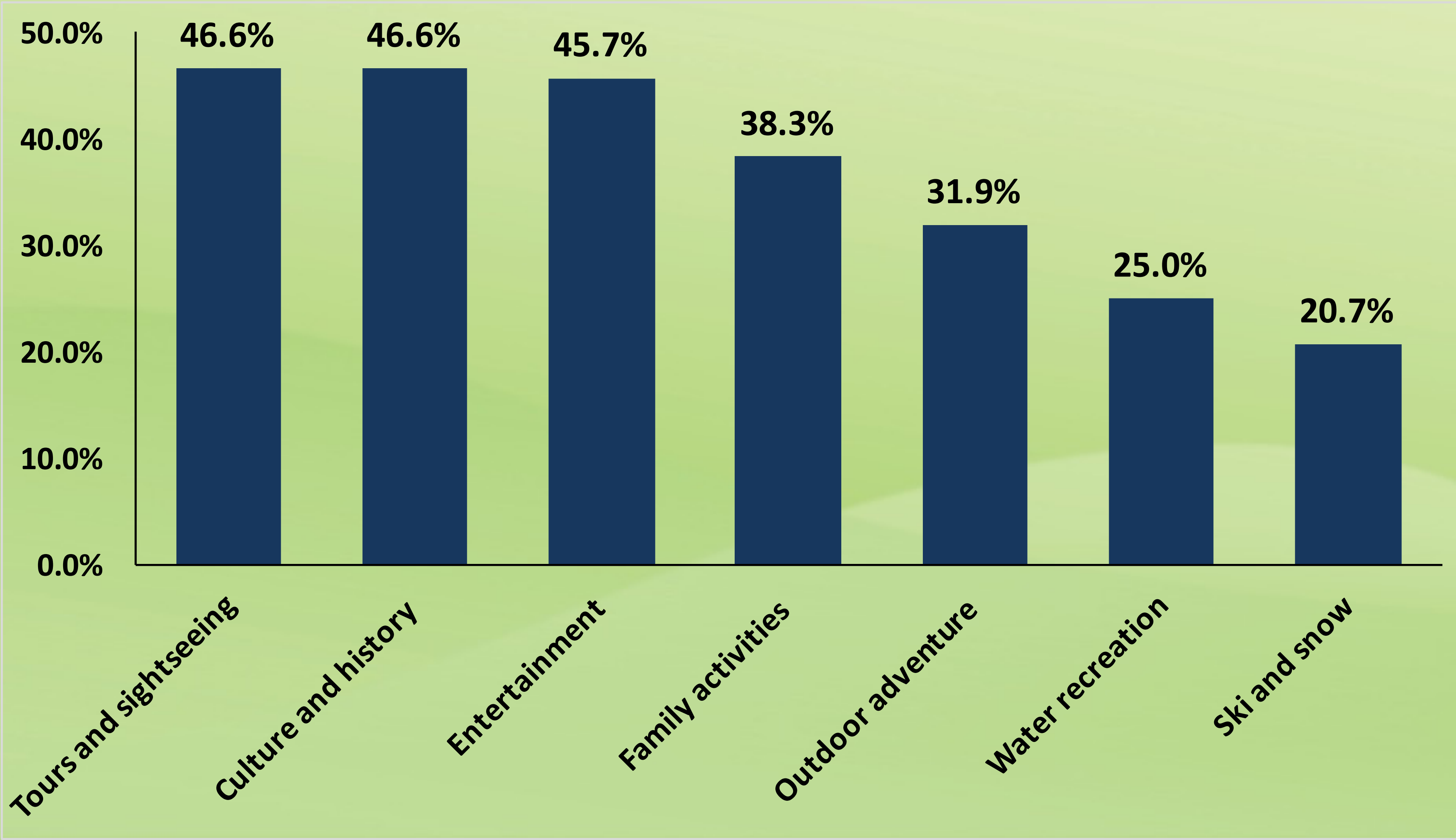
Activities (external to the tasting room) important to New Jersey tasting room visitors (%)



Agritourism consumers' participation in wine tasting events (Govindasamy and Kelley, 2014)

- Delaware, New Jersey, and Pennsylvania survey participants who visited wine tasting rooms **also participated in other agritourism activities**:

- On-farm market to purchase farm products (67.1%)
- Hay rides (67.1%)
- Pick-you-own farm (62.2%)
- Nature walk (53.6%)

Questions to ask customers and tasting room visitors

- How did you learn about our winery tasting room?
- What would encourage more frequent visits?
- Would they be interested in activities that involved: organized tours/sightseeing of the local area, admission to plays, museums, other entertainment, nature walks?
- Would the addition of farm products for purchase at the tasting room appeal?
- Could you cross-promote with other businesses that offer hay rides and operate pick-you-own farms?

Social media "is about building trust as well as relationships—and that comes from not selling."

Dave Brookes, Sales and Marketing Department

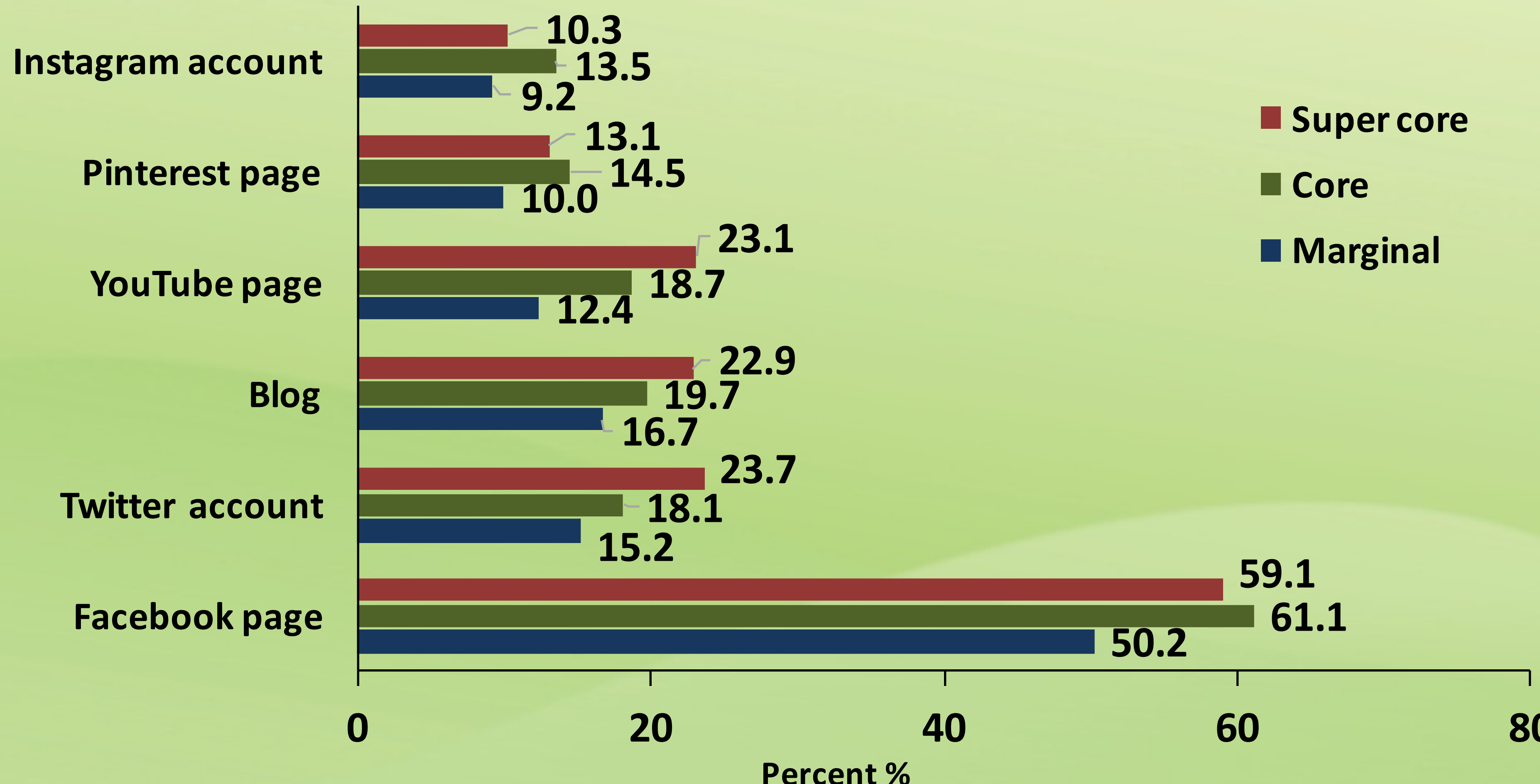
Social Media and the Wine Consumer

- Two-thirds of core wine drinkers (those who drink wine at least once a week) and 40% of marginal wine drinkers (those who drink wine less frequently) use the Internet in some form to get information about wine (Nichols, 2011)

- More than half of all wine drinkers are on Facebook; 25% use YouTube and Twitter (Nichols, 2011)

http://www.seomworld.com/2013/08/social-media-users-demographics.html

Components Mandatory for a Winery to Offer, Segmented by Consumption Frequency

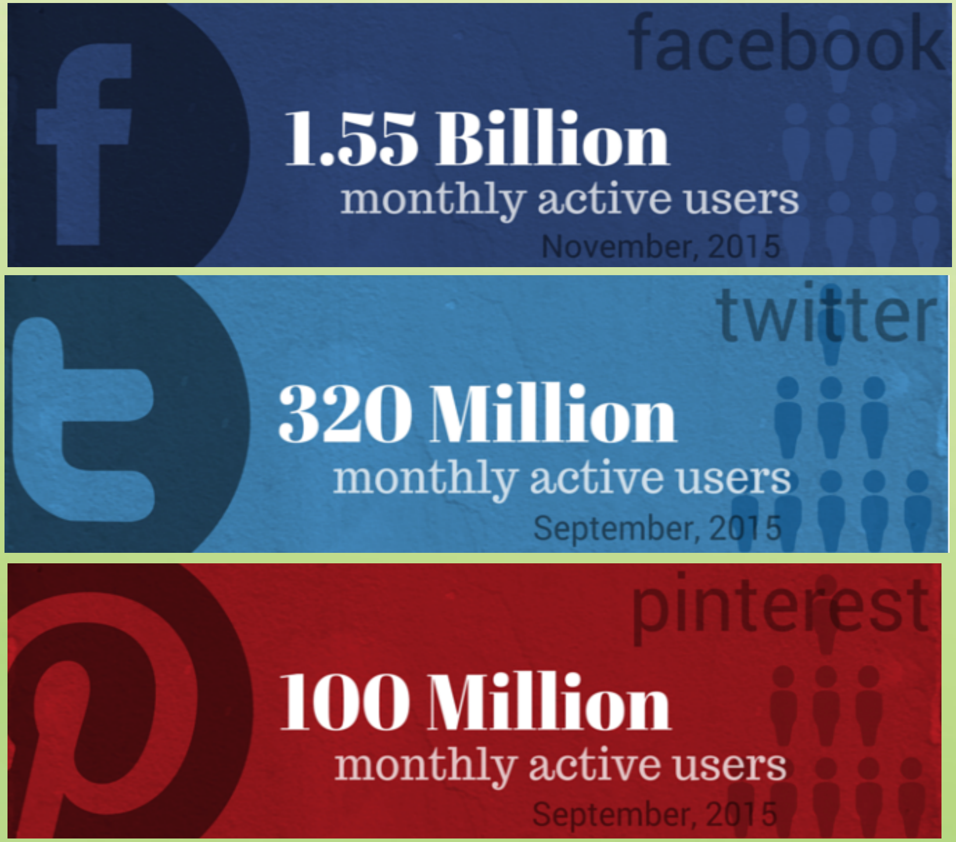


Younger participations were more likely to indicate that the social networks were mandatory than older participants.

Should you use Facebook or Twitter or both?

- Consumers tend to engage and interact more on Twitter
- Use Facebook to drive traffic to your website

http://on.mash.to/1SHZV12:
http://www.thesocialmediahat.com/active-users



http://usefulsocialmedia.com/customer-insight/pinterest-art-visual-marketing

http://www.thesocialmediahat.com/active-users

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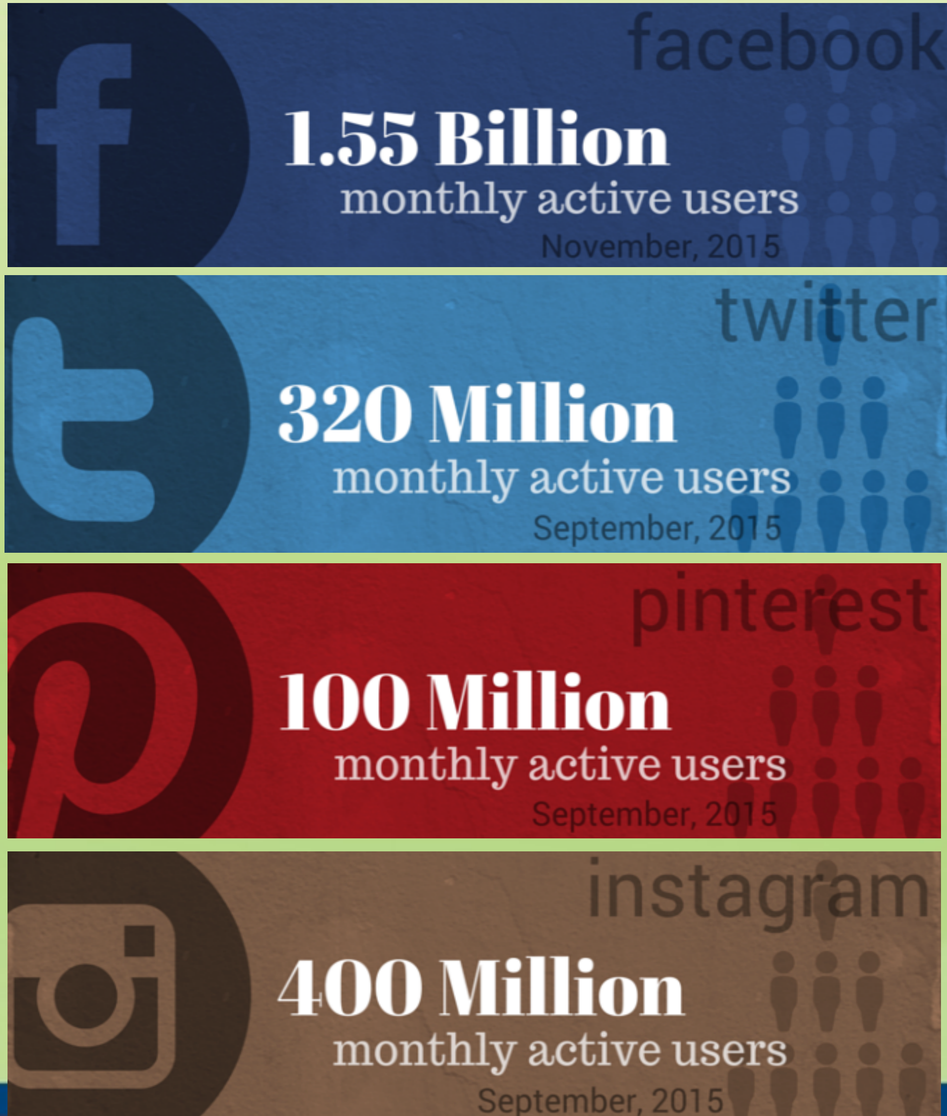
Use Pinterest, and other social networks, to conduct research

Just a few images resulting from a search I did on Pinterest to learn what was being posted about "wine trends."



"A recent study by Forrester Research found that Instagram users were 58 times more likely to like, comment, or share a brand's post than Facebook users and 120 times more likely than Twitter users."

http://www.fastcompany.com/3032848/the-future-of-work/nofilter-necessary-why-any-brand-can-and-should-harness-the-power-of-inst

http://www.thesocialmediahat.com/active-users

What type of Instagram image gets the most likes?

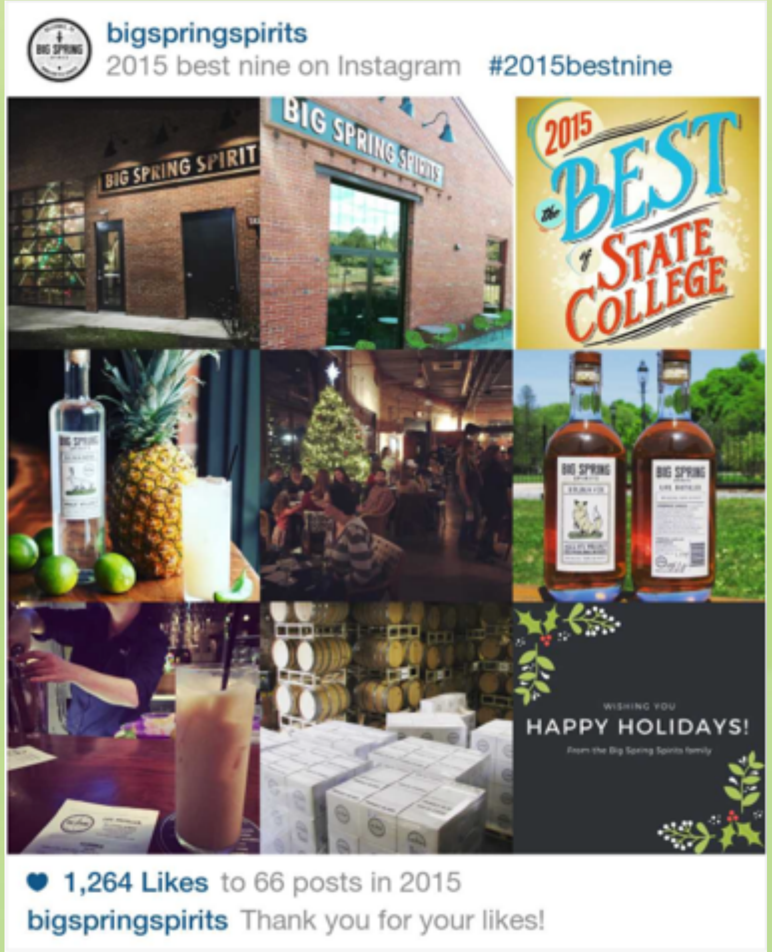
According to research conducted by Dan Zarrella

- Photos with faces
- "Busier photos"
- Cool colors
- Brighter photos
- Desaturated photos
- No filter

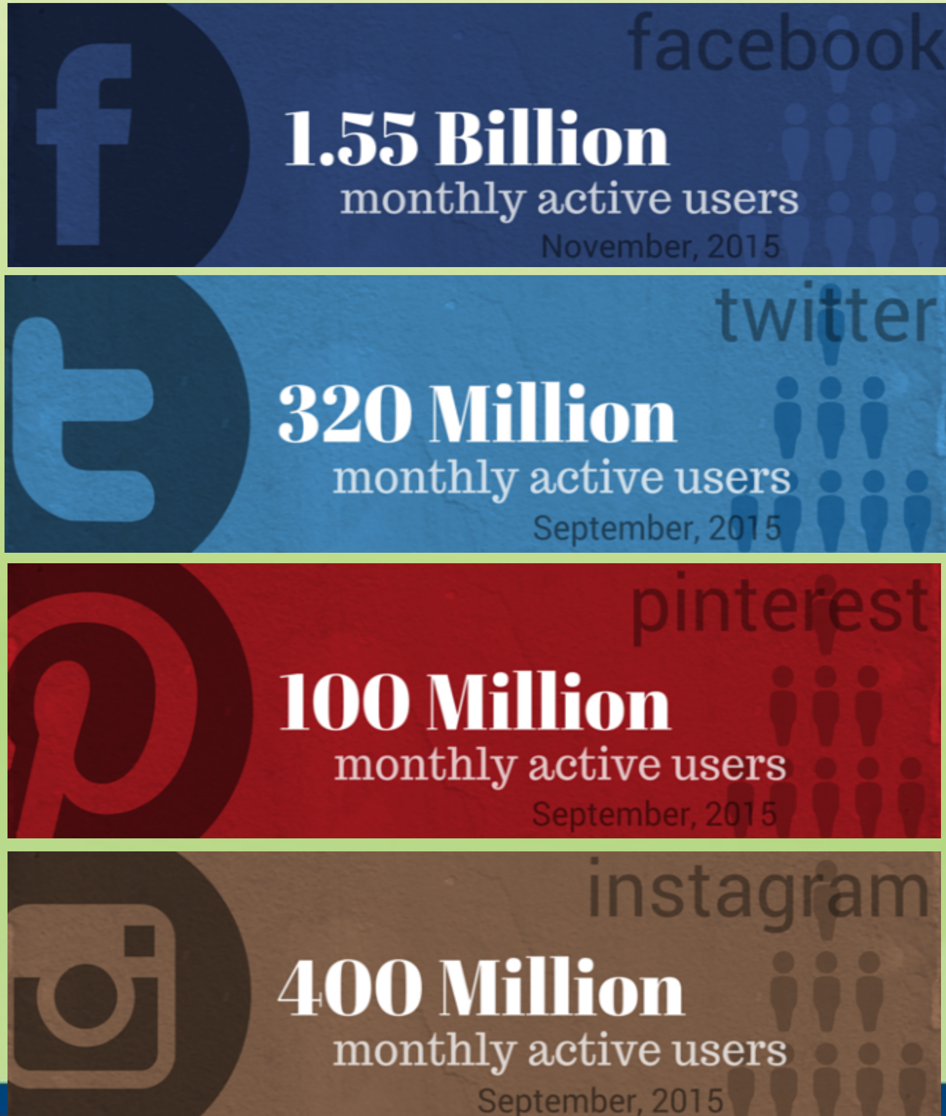
http://danzarrella.com/infographic-the-science-of-instagram.html

https://www.instagram.com/flavoursofspain/

What were your top nine Instagram posts in 2015 based on likes?



www.2015bestnine.com



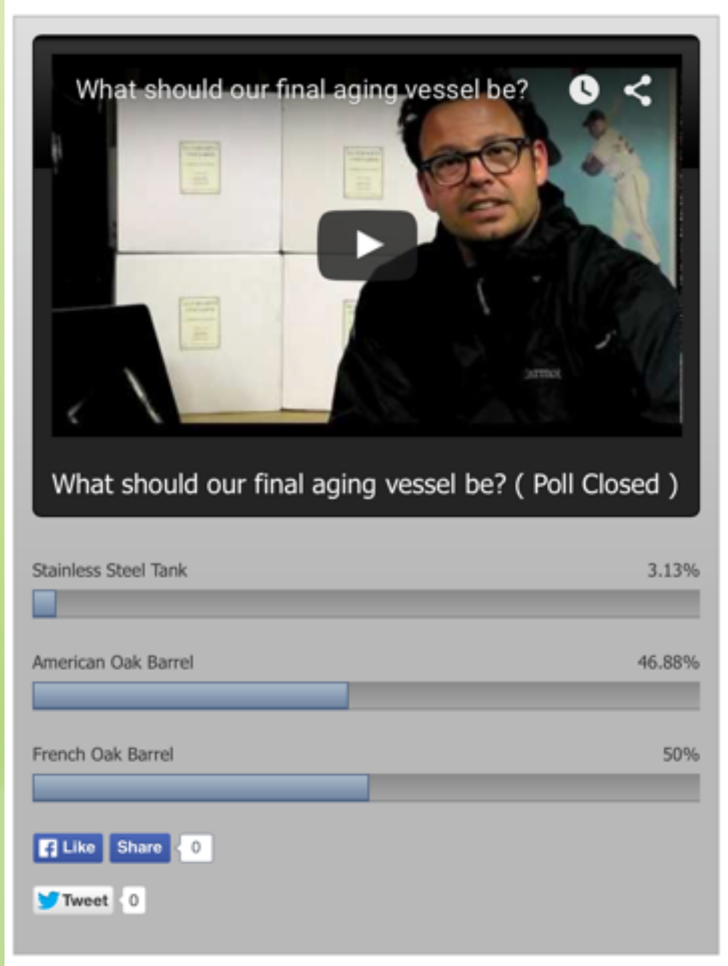
"YouTube reaches more consumers between age 18 and 34 than any cable network" http://bit.ly/1QJjccp

http://www.thesocialmediahat.com/active-users

What to consider when creating a YouTube video

- Being authentic
- Collaborating with established YouTube creators
- Having a consistent format, schedule, elements (e.g. introductions), and "clear and confident perspective that's apparent in every video, no matter how different each video is"

http://bit.ly/1uRM1tg



Silversmith Vineyard's Crowd-Made Wine Project

https://silversmithvineyards.com/crowdmadewine/

Questions to ask customers and tasting room visitors

- What social media networks do you actively use?
- Which ones do you use to connect with businesses?
- Would you prefer to learn about activities, events, and new products held at the winery tasting room through social media? If so, which one(s)?

Focus of our next survey:

Learn about actual social media connections/experiences with wineries, interest in connecting with wineries via new social media tools, and smartphone/tablet use

Inclusion of words/phases in promotions, on wine labels, etc. that appeal to general/mid-Atlantic wine consumers

Impact of nutritional concerns/diets on wine consumption

Thank you! Any questions?

Penn State Extension resources:
Wine & Grape U.: www.wineandgrapes.wordpress.com

Kathy Kelley
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The project "Developing Wine Marketing Strategies for the Mid-Atlantic Region" (GRANT 11091317) is being funded by a USDA Federal-State Marketing Improvement Program grant

Penn State **Extension**

Preference and Attitudes of Mid-Atlantic Consumers Towards NJ Wine

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Post-Doctoral Associate, Dept. of Agricultural, Food and Resource Economics,
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Dr. Kathleen Kelley

Professor, Plant Sciences, The Pennsylvania State University.

Abigail Miller

M.S. former graduate student, The Pennsylvania State University.

Other Investigators

Dr. Brad Rickard, Cornell University
Dr. Karl Storchmann, New York University
Dr. Jeffrey Hyde, The Pennsylvania State University.
Ms. Denise Gardener, The Pennsylvania State University.

Current View of Global Wine Production

- > 1 million wine producers in the world.
- Produce about 2.8 billion cases of wine / year.
- Export market is about 1 billion cases.
- The global 'seaborne' export market is about 600 million cases, 60% of which is to the UK, the US and China.
- Top ten countries control 80% of production across 4.4 million hectares.

Source: Morganstanley Research (2013)

World Vineyard Acreage By top 10 Countries 2011- 2014 and % Change 2014/2011 Acres (000)

S.No	Country	2011	2012	2013	2014	% of world total 2014	% Change 2014/2011
1	Spain	2,380	2,330	2,337	2,340	13.00%	-1.70%
2	China	1,475	1,645	1,878	1,974	11.00%	33.90%
3	France	1,888	1,880	1,879	1,876	10.40%	-0.60%
4	Italy	1,773	1,724	1,735	1,705	9.50%	-3.80%
5	Turkey	1,255	1,228	1,245	1,240	6.90%	-1.20%
6	United states	976	1,018	1,041	1,035	5.80%	6.00%
7	Argentina	540	547	554	552	3.10%	2.30%
8	Chile	509	509	514	521	2.90%	2.40%
9	Iran	525	531	513	507	2.80%	-3.50%
10	Portugal	444	444	444	444	2.50%	0.00%
	World total	17,447	17,554	17,902	17,960	100.00%	2.90%

Source: http://www.wineinstitute.org/resources/statistics

World Wine Production By top 10 Countries 2011- 2014 and % Change 2014/2011 liters (000)

S. No	Country	2011	2012	2013	2014	% world total 2014	% Change 2014 / 2011
1	France	4,432,200	5,075,700	4,107,500	4,670,100	16.54%	5.40%
2	Italy	4,673,000	4,270,500	5,402,900	4,473,900	15.85%	-4.30%
3	Spain	3,535,300	3,370,900	3,123,300	3,820,400	13.53%	8.10%
4	USA	2,692,400	2,981,100	3,114,600	3,021,400	10.70%	12.20%
5	Argentina	1,547,000	1,177,800	1,498,400	1,519,700	5.38%	-1.80%
6	Australia	1,109,000	1,187,000	1,250,000	1,200,000	4.25%	8.20%
7	South Africa	1,046,300	1,055,000	1,097,200	1,131,600	4.01%	8.20%
8	China	1,156,900	1,381,600	1,170,000	1,117,800	3.96%	-3.40%
9	Chile	966,500	1,254,000	1,282,000	1,050,000	3.72%	8.60%
10	Germany	697,300	922,300	910,200	849,300	3.01%	21.80%
	World total	26,543,800	27629,000	27,885,400	28,230,400	100%	6.40%

Source: http://www.wineinstitute.org/resources/statistics

World Wine Consumption By top 10 Countries 2011- 2014 and % Change 2014/2011 (Liters 000)

S.No	Country	2011	2012	2013	2014	% Change 2014 /2011	% Of world Consumption 2014
1	USA	3,163,300	3,159,500	3,117,600	3,217,500	1.7%	13.0%
2	France	2,932,200	3,026,900	2,818,100	2,790,000	-4.9%	11.3%
3	Italy	2,305,200	2,263,300	2,179,500	2,040,000	-11.5%	8.3%
4	Germany	1,970,700	2,000,000	2,030,000	2,020,000	2.5%	8.2%
5	China	1,520,300	1,773,700	1,747,100	1,580,000	3.9%	6.4%
6	UK	1,412,600	1,343,000	1,230,400	1,386,700	-1.8%	5.6%
7	Spain	989,400	930,000	910,000	1,000,000	1.1%	4.1%
8	Argentina	980,900	1,005,100	1,033,700	990,000	0.9%	4.0%
9	Russia	1,127,600	1,039,400	1,050,000	960,000	-14.9%	3.9%
10	Australia	462,000	458,000	453,000	540,000	16.9%	2.2%
	World total	24,686,245	24,945,409	24,579,072	24,701,440	0.1%	100.0%

Source: http://www.wineinstitute.org/resources/statistics

Research Focus

Objective:

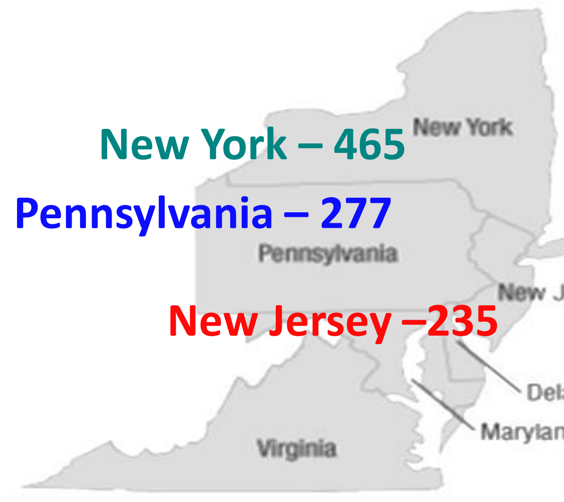
- Purchasing behavior and consumption attitudes of New Jersey, Pennsylvania and New York wine consumers.
- Effects of different promotion and marketing efforts on consumption of New Jersey wines.

Wine Consumer Survey Framework

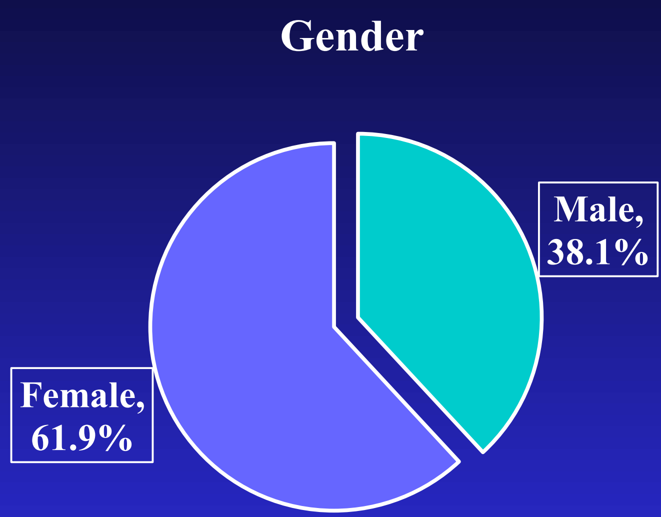
- Two 15-minute Internet Surveys.
- 977 surveys collected between 22-24 Oct. 2014
- Survey samples selection criteria:
  - 21 years of age or older
  - Resided in New Jersey, New York, or Pennsylvania
  - Drank and purchased wine at least once within the previous year.

State of Primary Residence

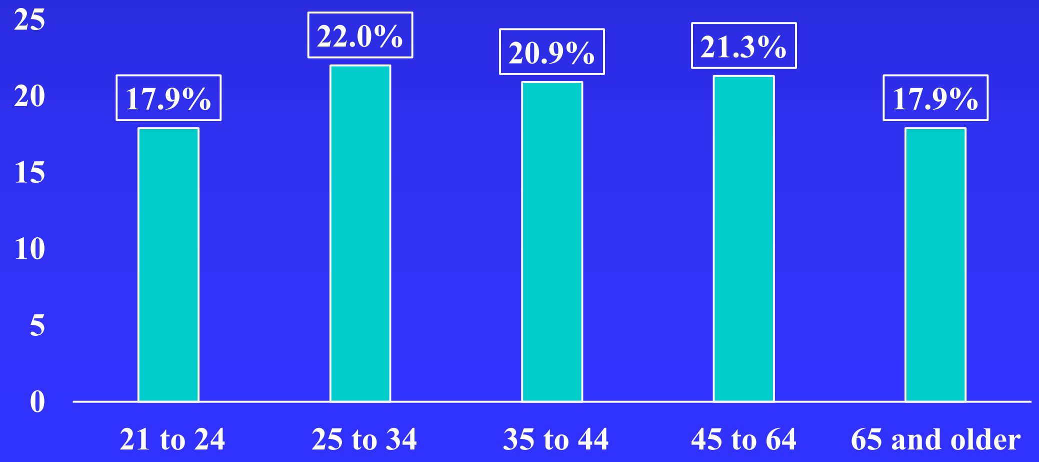
Residence	Frequency	Percent
New Jersey	235	24.0%
New York	465	47.6%
Pennsylvania	277	28.4%
Total	977	100.0



Participant Demographics



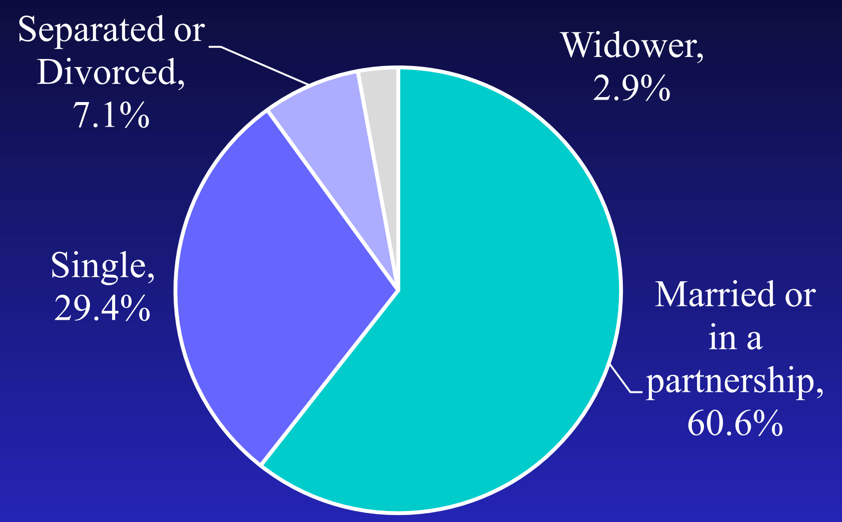
Age of the Respondent



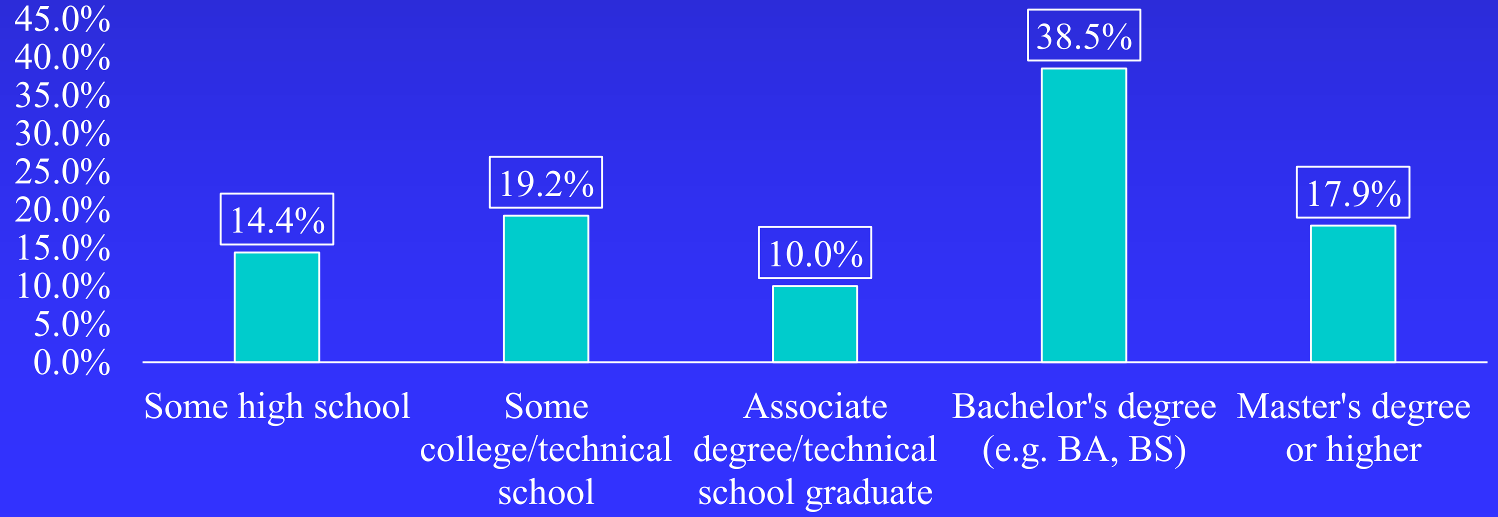
2013 Total Annual Household Income Before Taxes

Income	Frequency	Percent
Less than $25,000	99	10.2
$25,000-$49,999	200	20.6
$50,000-$75,999	210	21.6
$76,000-$99,999	150	15.4
$100,000-$150,000	189	19.5
$150,000-$200,000	71	7.3
$200,000 or greater	52	5.4
Total	971	100

Current Marital Status



Level of Education

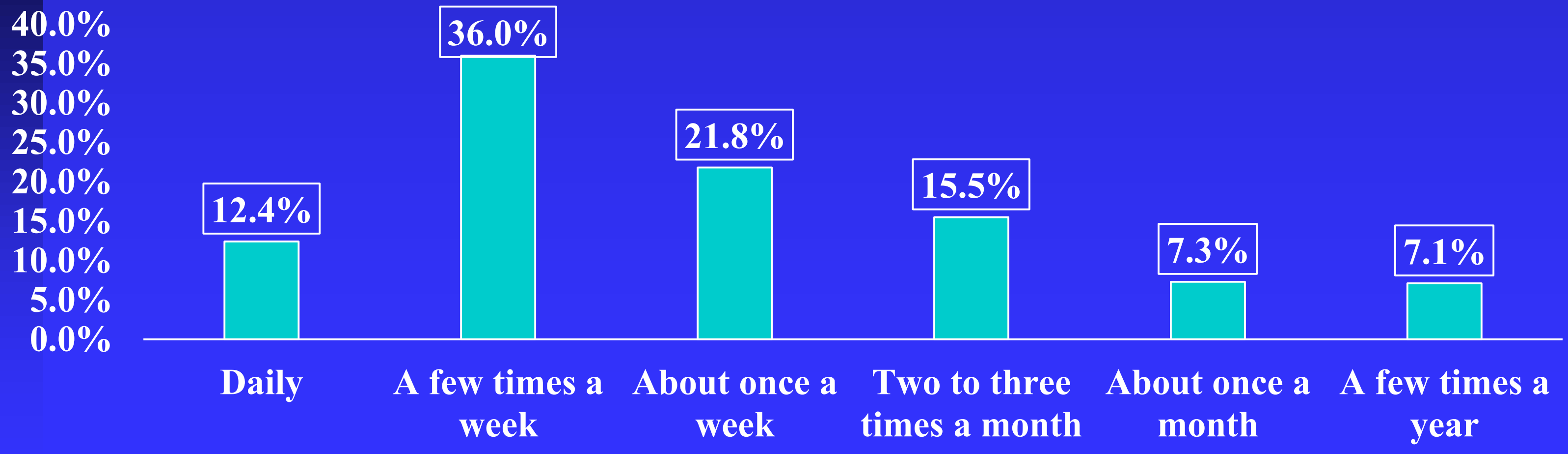


Purchasing Behavior of Mid-Atlantic Wine Consumers

Respondent Involvement in Wine Purchasing

Participants	Frequency	Percent
Purchases the “everyday wine” that is consumed in the house on an average day	167	17.1
Purchases wine to serve during special occasions and to entertain	125	12.8
Purchases both “everyday” wine and for special occasions	685	70.1
Total	977	100

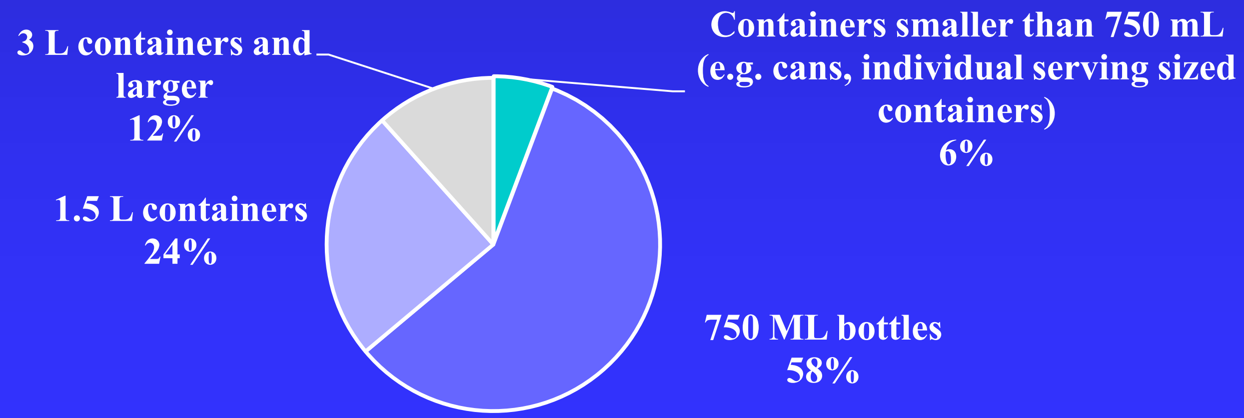
How Often Do the Participants Drink Wine



Number of People Drink Wine In the Household

Participants	Frequency	Percent
Participant only drinks wine	286	29.4
Participant and one other adult in HH drinks wine	554	56.9
Participant and at least two other adults drinks wine	133	13.7
Total	973	100

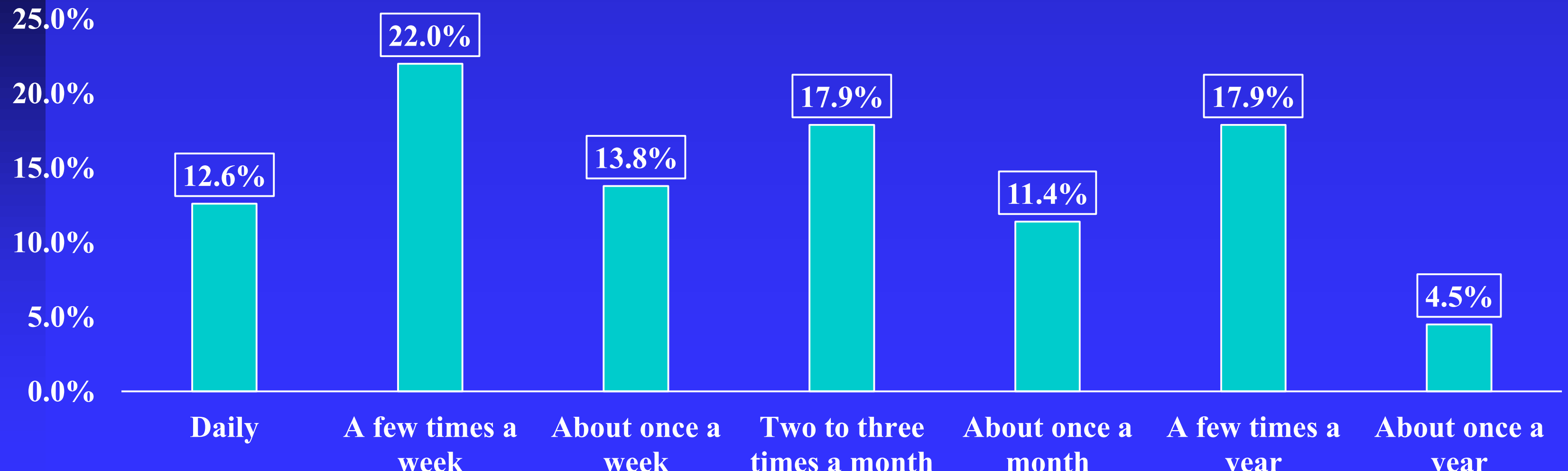
Percentage Share of Wine Containers the Participant Purchases



Respondents Perception of 10% Alcohol by Volume and/or Fewer than 80 Calories Per 5 oz Wine.

Participants	Frequency	Percent
Yes	245	25.2
No	392	40.2
Unsure/ I Don't Know	337	34.6
Total	974	100

Consumption Frequency of Lower Alcohol Content and/or Calories Wine.



Past Consumption Experience of Wine that Produced In the New Jersey, New York and/or Pennsylvania

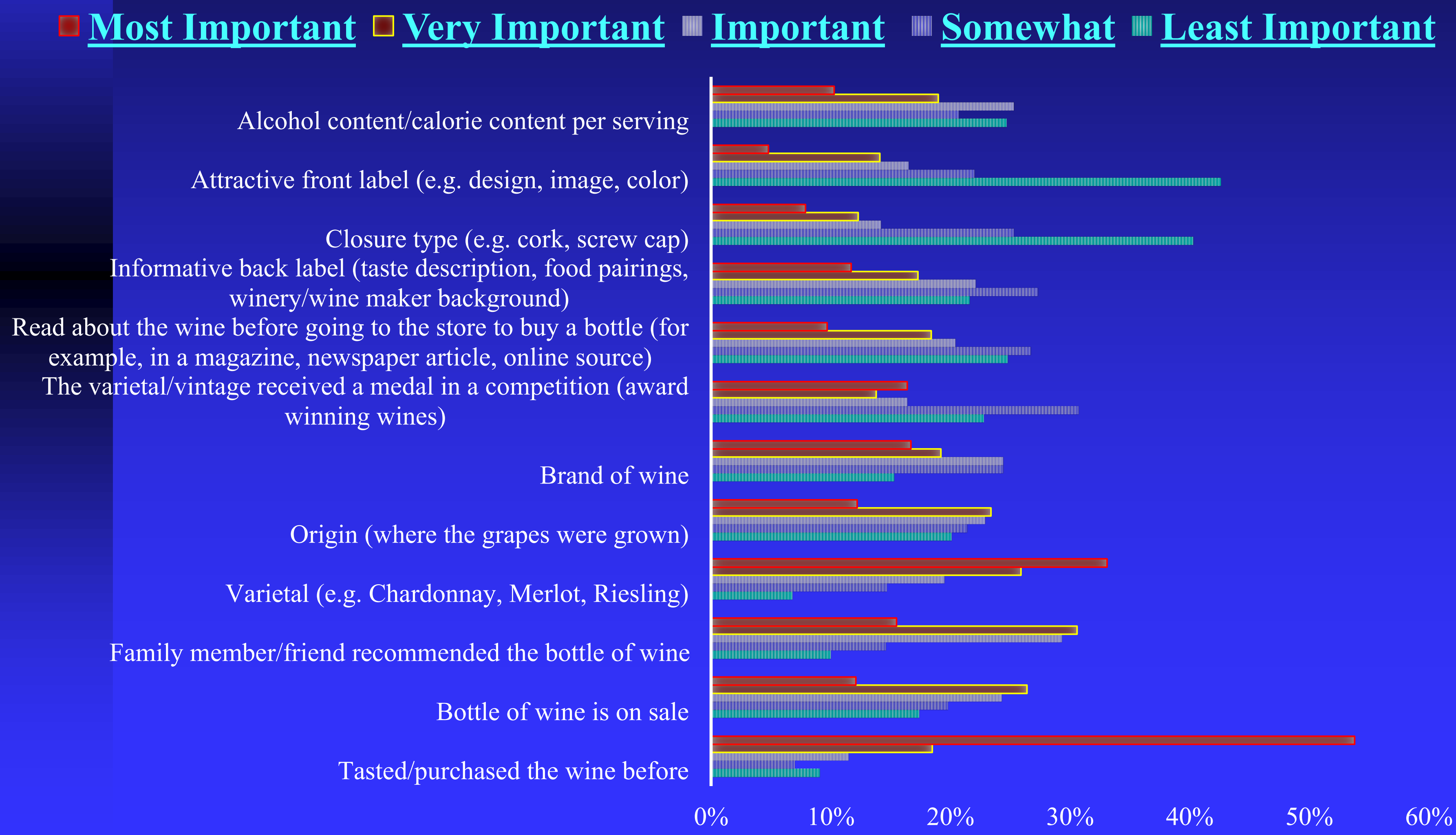
Response	Frequency	Percent
Yes	760	78.1
No	213	21.9
Total	973	100

Of the last 10 bottles of 750 mL wine the respondent willing to buy less than 10% alcohol by volume and/or fewer than 80 calories per 5 oz. On an average of 2.86 bottles.

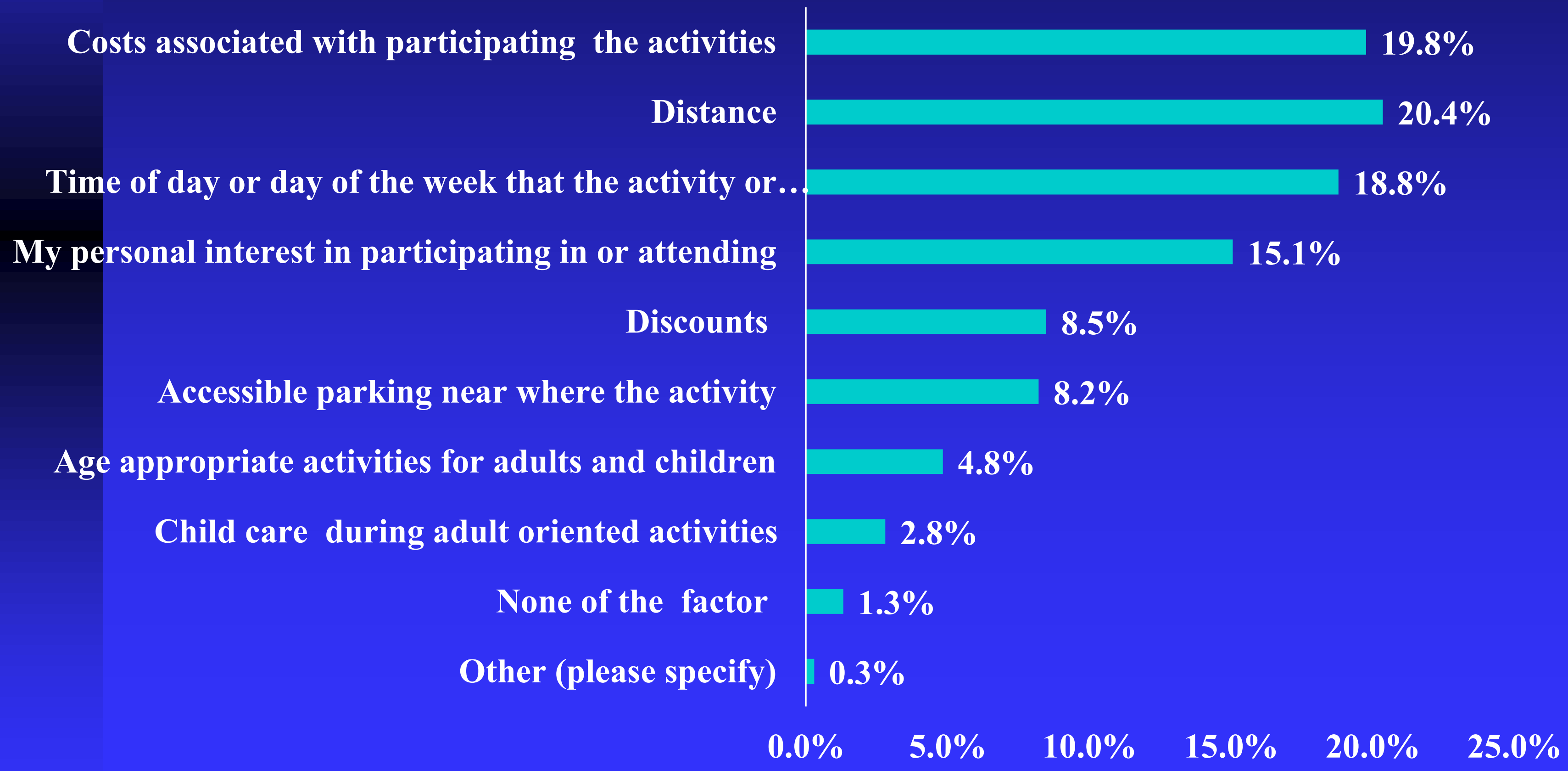
The respondent preference of red, white, and/or rose wine

Red	48.8 %
White	37.4%
Rose	17.3%

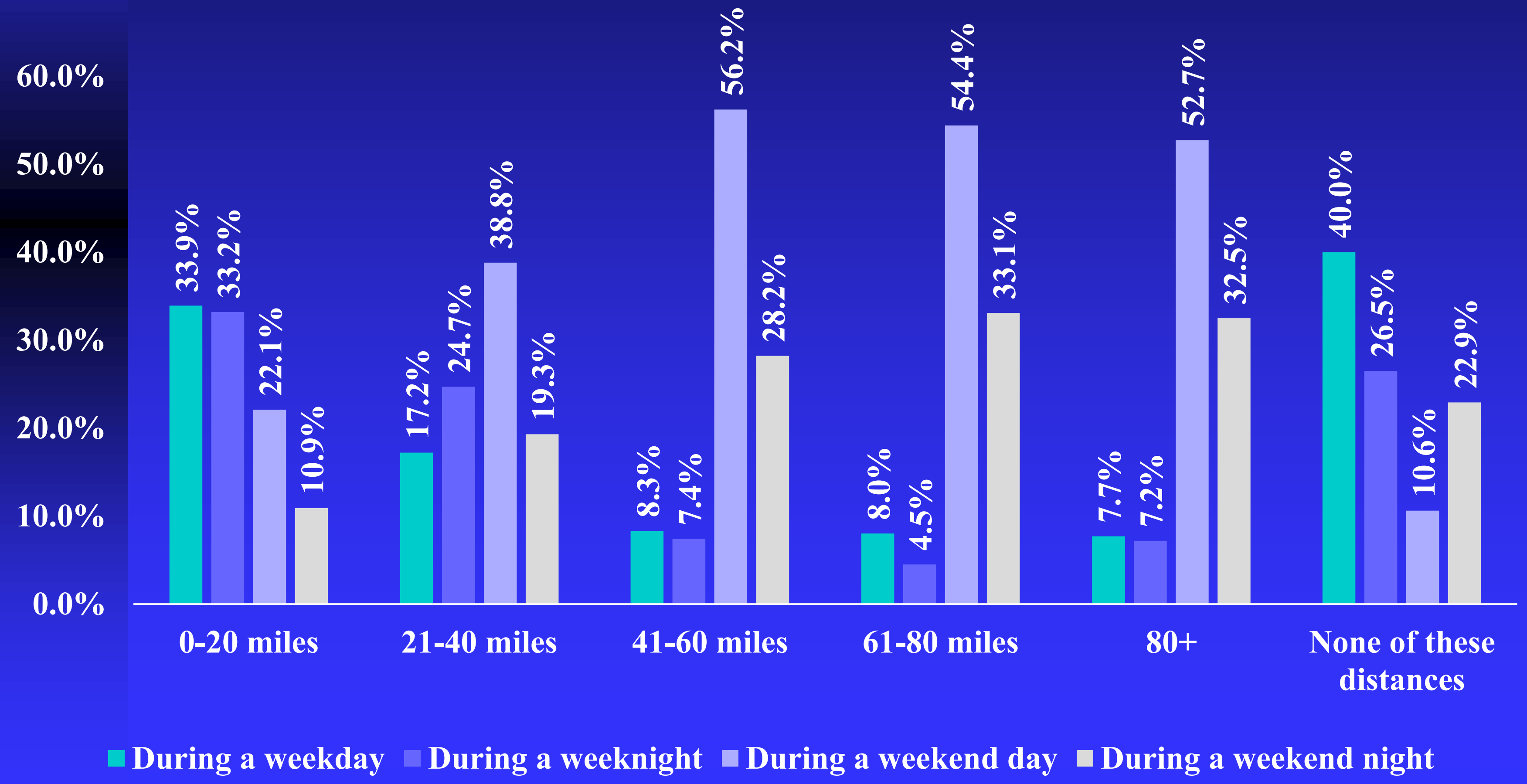
Common Factors that Influence the Respondents When Purchasing a 750 ml Bottle of Wine.



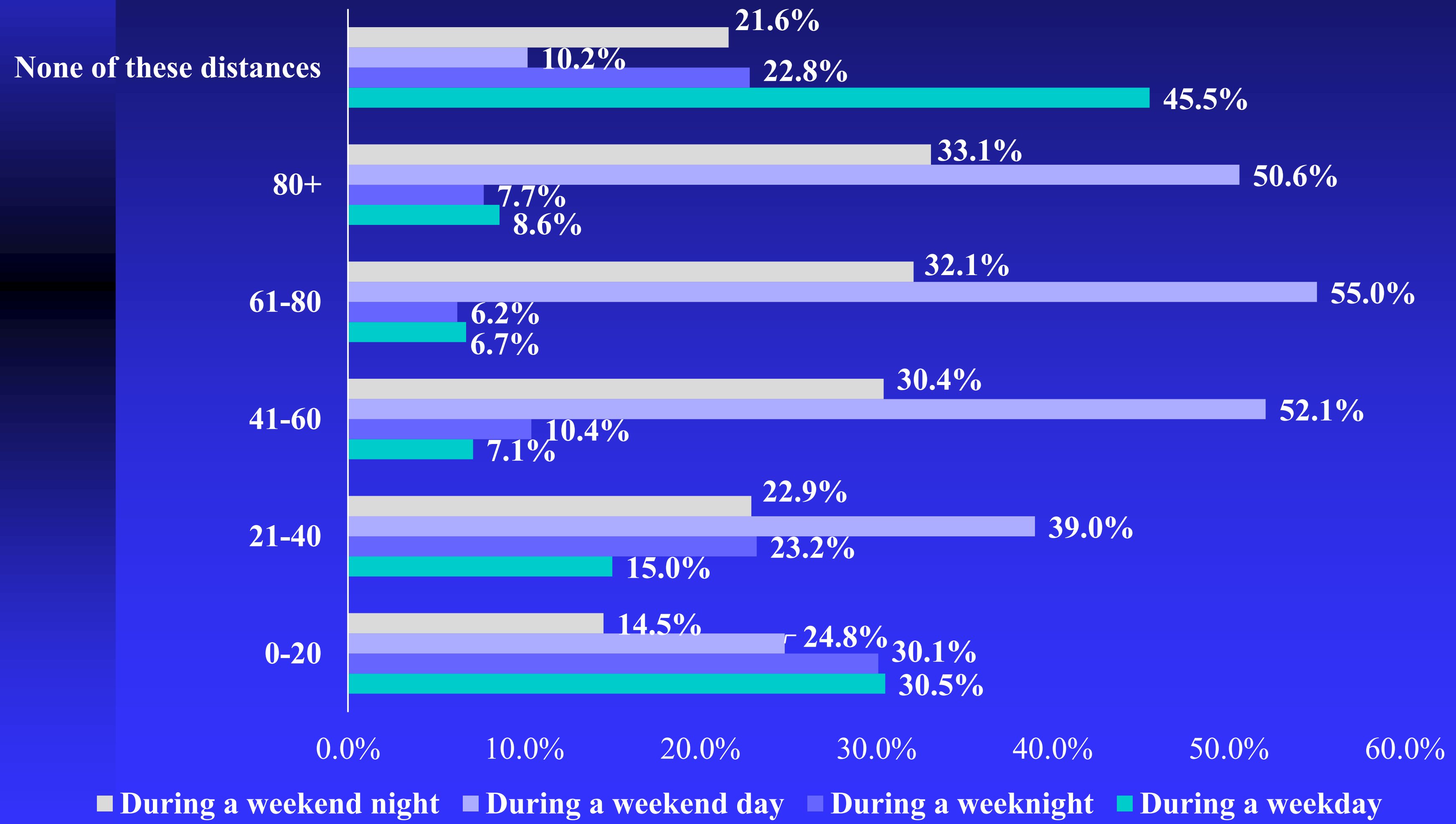
Factors that Decides to Participate in Leisure Activities and Events Held at a Winery



Distances Willing to Travel to Attend a Free Event Held at a Winery During a Weekday, Weeknight, Weekend day, and Weekend Night



Distances Willing to Travel to Attend a Fee Event Held at a Winery During a Weekday, Weeknight, Weekend day, and Weekend Night



Purchased a Bottle of Wine Specifically Because all or Some of the Profits are Donated to a Cause or Nonprofit Organization

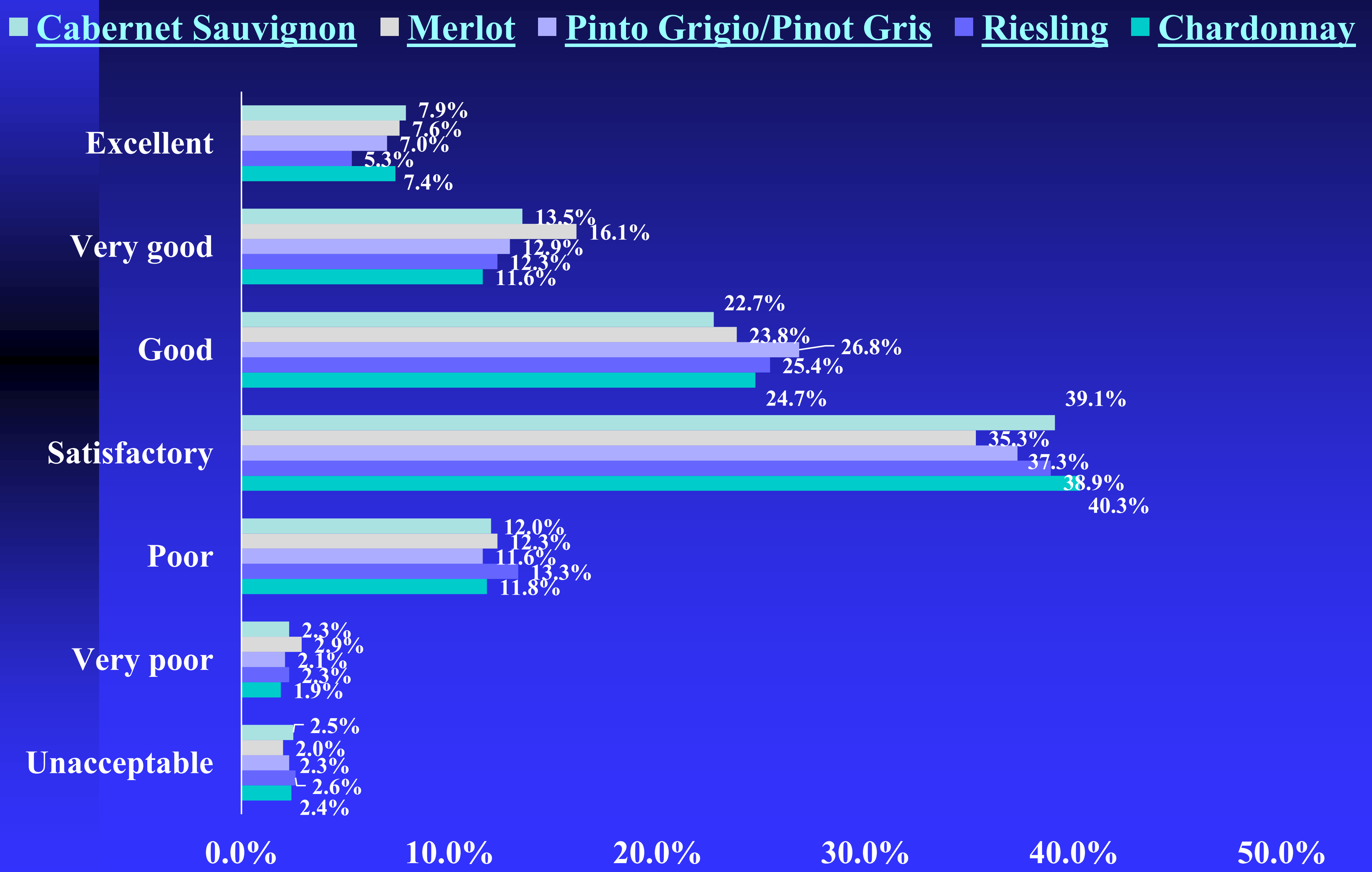
Participant's response	Frequency	Valid Percent
Yes	263	27.3
No	700	72.7
Total	963	100

Would Knowing That a Winery Donates All or a Portion Of the Profits, From Specific Merchandise and Wine, to a Cause or Nonprofit Association that Encourage the Respondents to Visit that Particular Winery

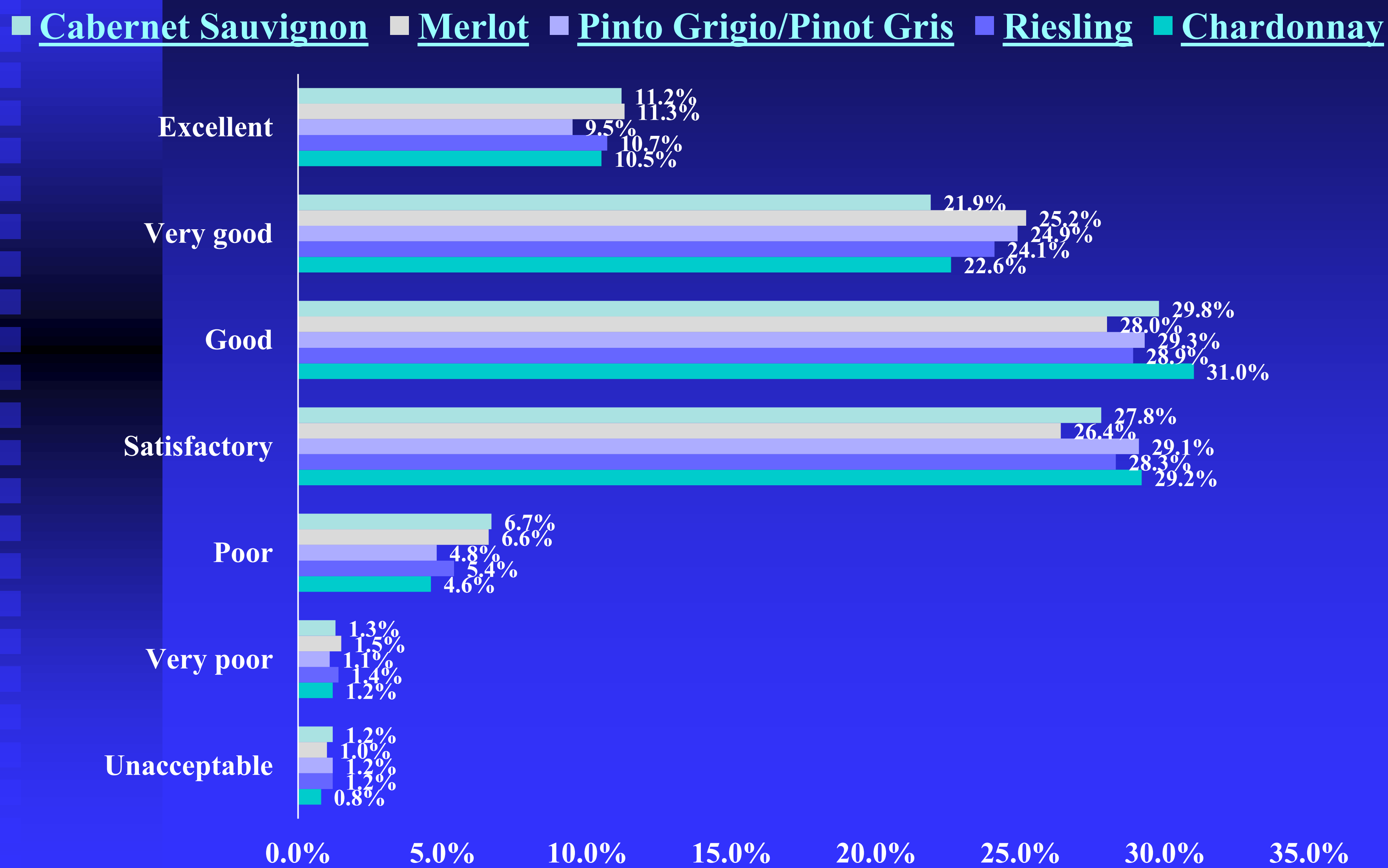
Participant's response	Frequency	Valid Percent
Yes	483	50.2
No	224	23.3
Not sure	256	26.6
Total	963	100

Comparison of New Jersey, New York and Pennsylvania Wine

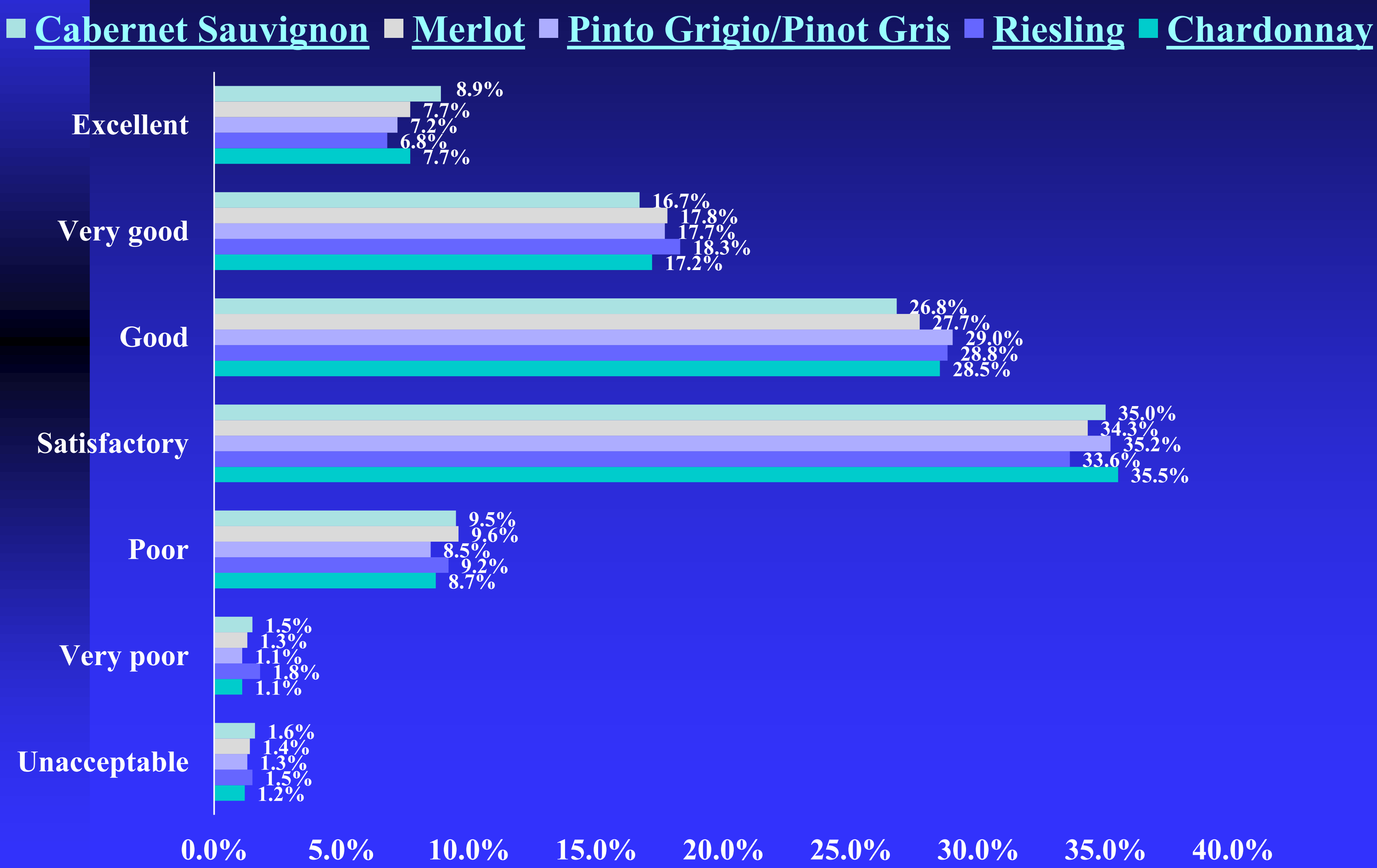
Respondents Perception About Wines Produced With Grapes Grown in New Jersey.



Respondents Perception About Wines Produced With Grapes Grown in New York.



Respondents Perception About Wines Produced With Grapes Grown in Pennsylvania.

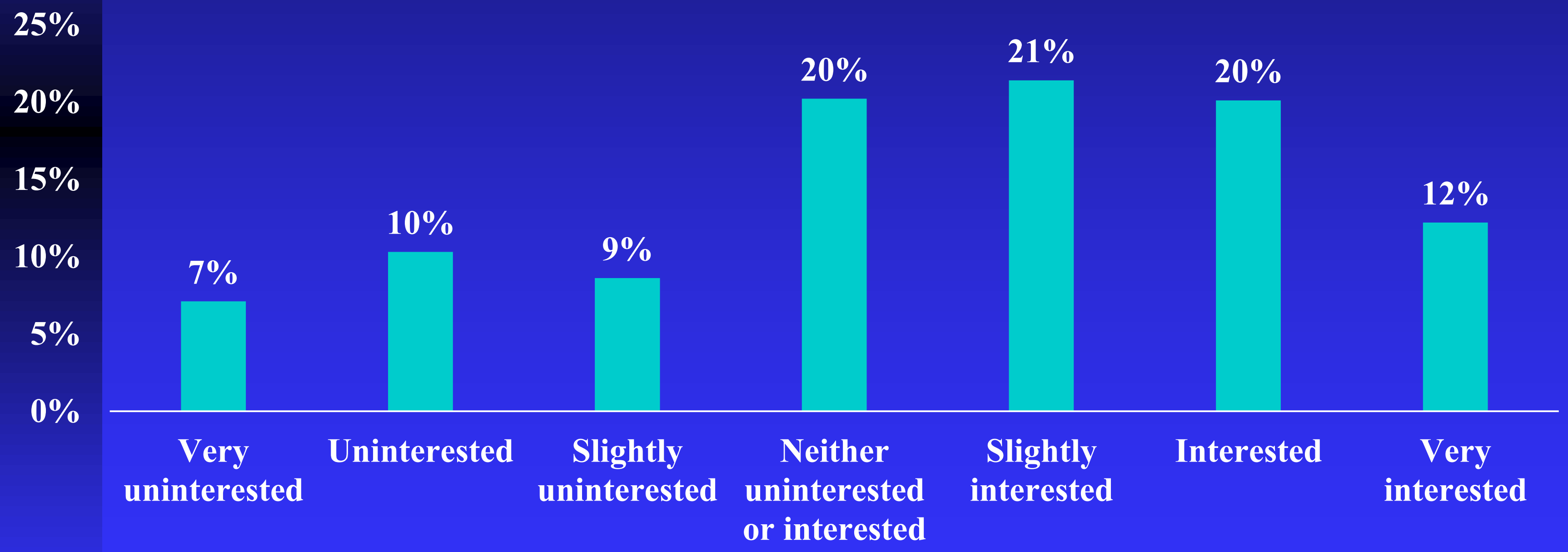


Preference for
Wine Produced in New Jersey
By NJ, PA and NY Residents

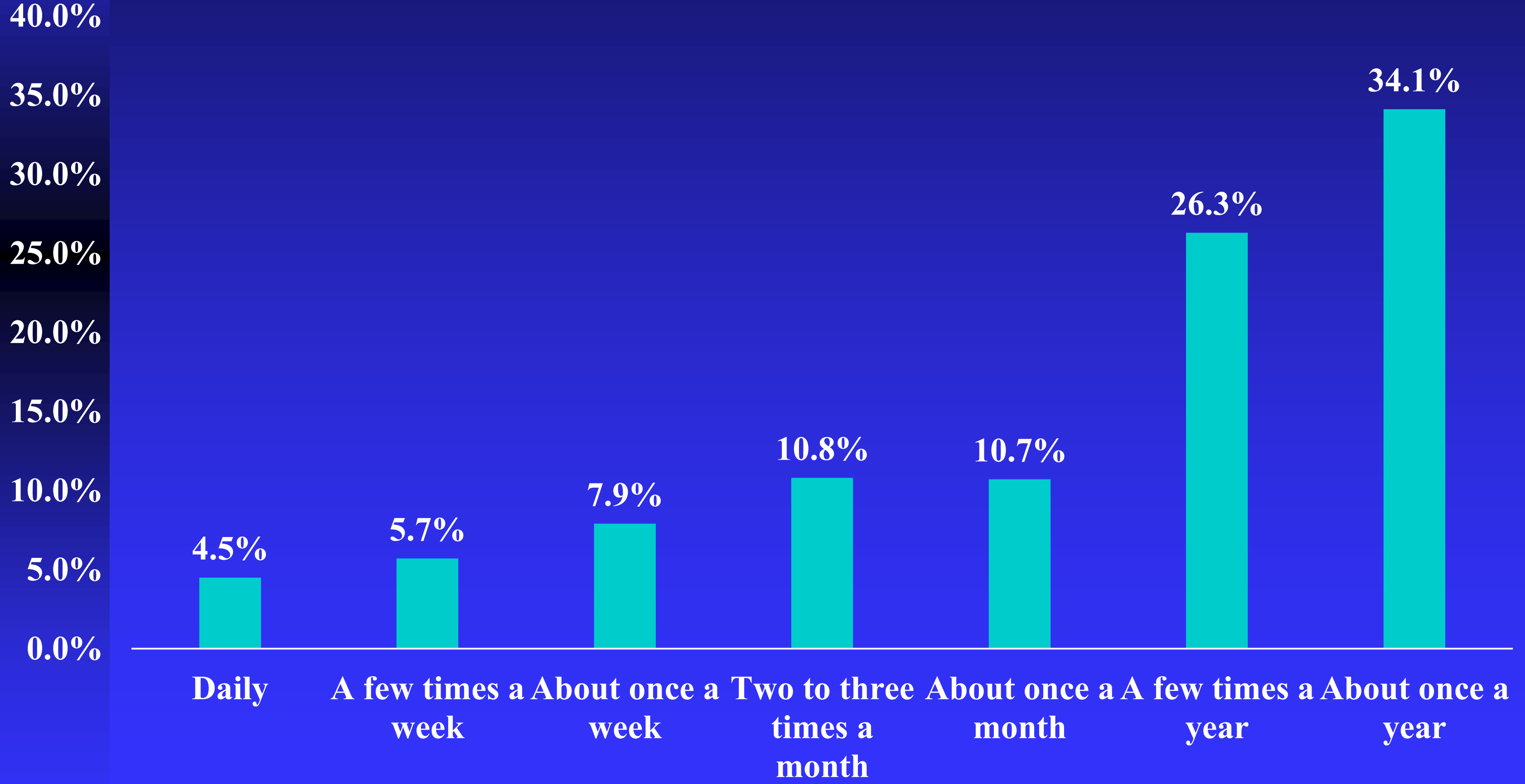
Respondents Perception About Wines that could be Produced With Grapes Grown in New Jersey.

Varieties	Unacceptable	Very poor	Poor	Satisfac tory	Good	Very good	Excellent	Total
Chardonnay	2.4%	1.9%	11.8%	40.3%	24.7%	11.6%	7.4%	100%
Riesling	2.6%	2.3%	13.3%	38.9%	25.4%	12.3%	5.3%	100%
Pinto Grigio/ Pinot Gris	2.3%	2.1%	11.6%	37.3%	26.8%	12.9%	7.0%	100%
Merlot	2.0%	2.9%	12.3%	35.3%	23.8%	16.1%	7.6%	100%
Cabernet Sauvignon	2.5%	2.3%	12.0%	39.1%	22.7%	13.5%	7.9%	100%

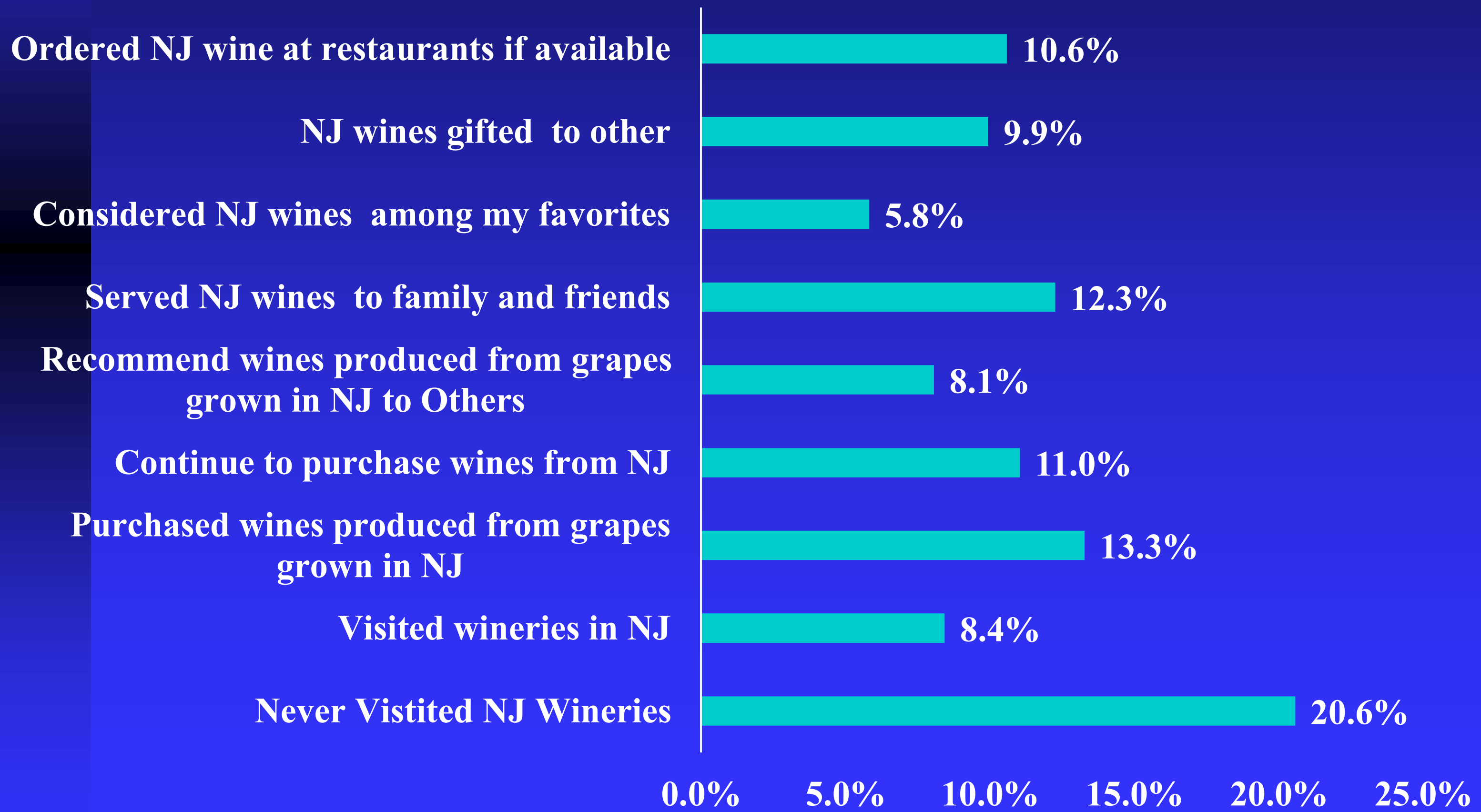
Respondents Level of Interest in Purchasing and Drinking of NJ- Wines With Less than 10% Alcohol by Volume / 80 Calories / 5 oz.



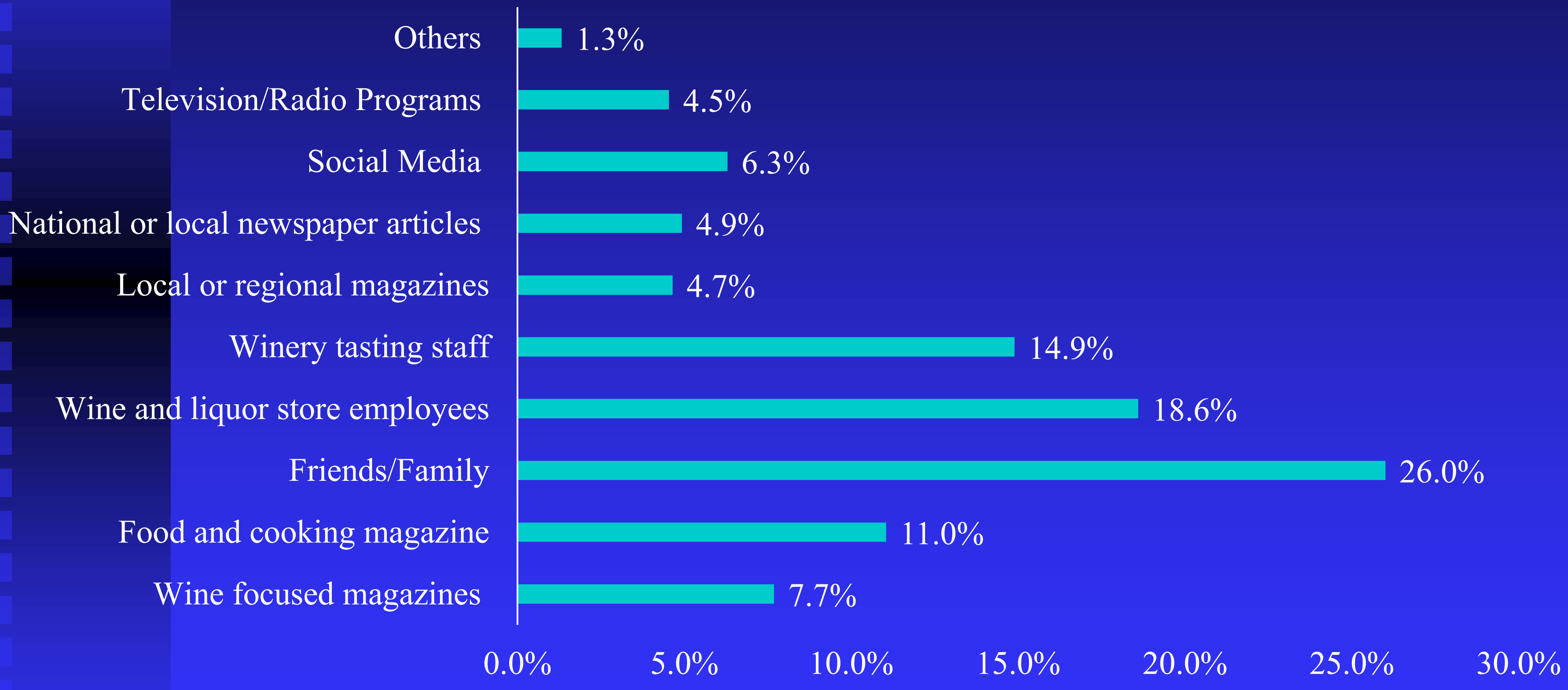
Drinking Frequency of New Jersey Wine



Respondents Experiences with Visiting Wineries and Purchasing and Drinking Wine Produced in New Jersey



Sources to learn More about Wine



NJ- Residents Purchasing Behavior of Wine

NJ- Respondent Involvement in Wine Purchasing

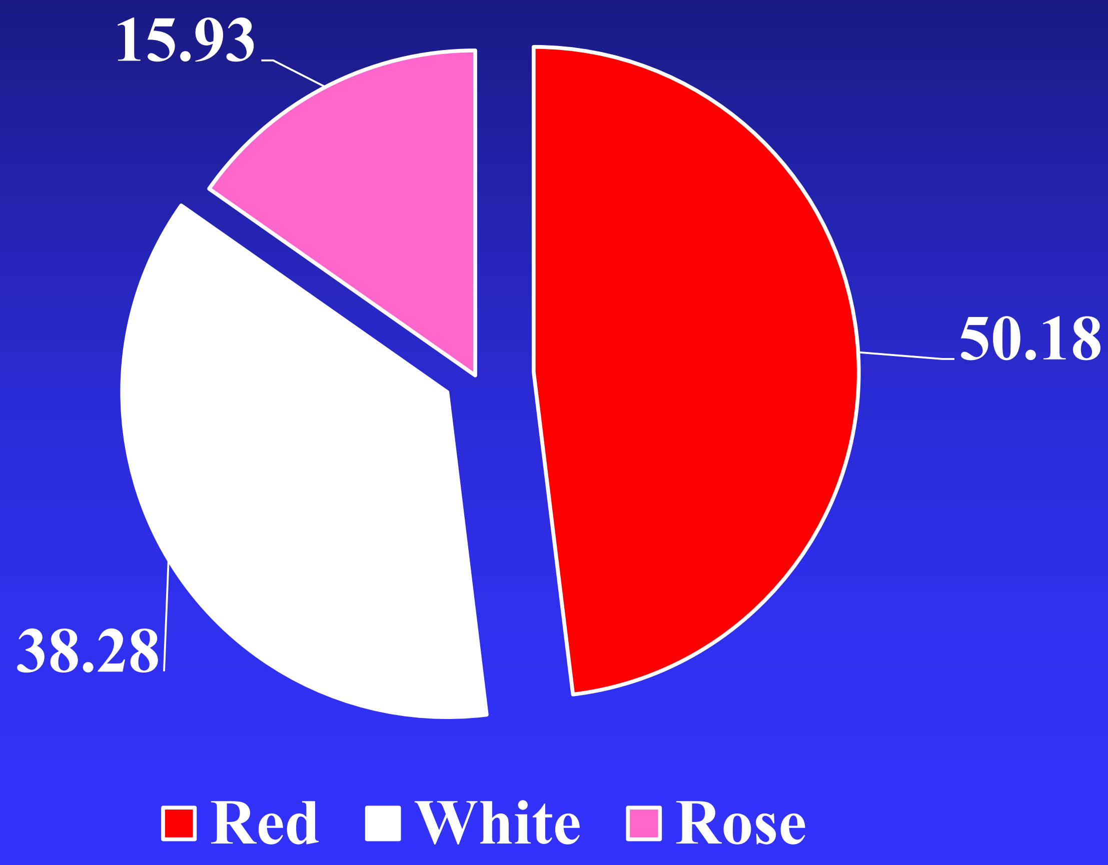
Particulars	New Jersey	%
I only purchase the "everyday" wine that I/we consume in the home during an average day (not for special occasions or entertaining).	32	13.6%
I only purchase wine I/we serve during special occasions and when we entertain.	32	13.6%
I purchase both the "everyday" wine and the wine purchased or special occasions and entertaining	171	72.8%
None of the above/I do not purchase wine for the household	0	0.0%
Total	235	100.0%

NJ- Respondents Drinking Frequency of Wine

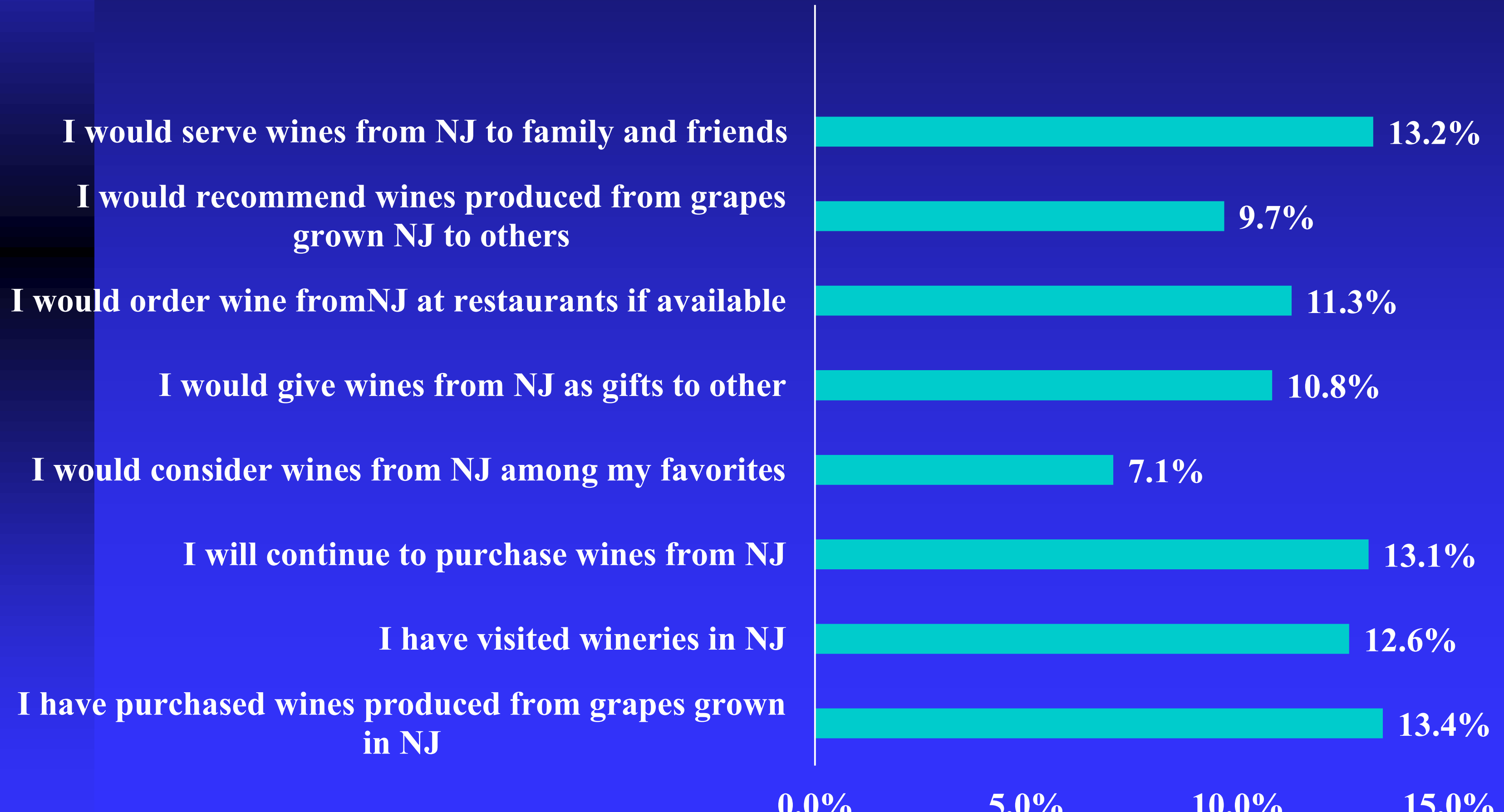
Particulars	Frequency	%
Daily	38	16.2%
A few times a week	88	37.4%
About once a week	51	21.7%
Two to three times a month	34	14.5%
About once a month	13	5.5%
A few times a year	11	4.7%
About once a year	0	0.0%
Total	235	100.0%

Average Percent of the wine purchased By the NJ-Respondents

Average Percent of the wine purchased By the NJ-Respondents



NJ- Respondents Experiences with Visiting Wineries and Purchasing and Drinking behavior of Wine



Thank you.

Questions....?

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http://aesop.rutgers.edu/%7Eagecon/pub/agmkt.htm