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Organic Wine: The Influence of Biospheric, Altruistic, and Egoistic Values on Purchase Intention, Willingness to Pay More, and Willingness to Sacrifice

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Organic Wine: The Influence of Biospheric, Altruistic, and Egoistic Values on Purchase Intention, Willingness to Pay More, and Willingness to Sacrifice

Abstract

This study developed a conceptual framework for understanding consumers' behavioral intentions regarding the purchase of organic wine. Based on Schwartz's values theory, using Stern's nomenclature, in conjunction with social adaptation theory, altruism, and green signaling, we analyze the role of values in forming organic wine purchase intentions, the willingness to pay more to purchase organic wine, and the willingness to sacrifice quality to purchase organic wine. A self-report consumer survey, operationalized by structural equation modeling, revealed the significant influence of biospheric values on all three types of behavioral intentions. We could not establish significant support for altruistic values while egoistic values influenced only purchase intention with respect to organic wines. Consumers seem to care about personal health benefits and social status when they purchase organic wines. However, heavy wine drinkers tend to focus on the intrinsic attributes of wines rather than their extrinsic benefits. Numerous implications and takeaways are discussed.

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1. INTRODUCTION

The term “green consumerism” refers to “purchasing and non-purchasing decisions made by consumers, based at least partly on environmental or social criteria” (Peattie, 1992; p. 118). Environmental trends such climate change, depletion of resources, and overuse of the earth’s absorptive capacity have put the onus on humans and their underlying behaviors. One facet of such behavior through which we can attempt to save our planet is green consumerism. There is no doubt that consumers are increasingly conscious of environmental issues. In a survey of more than 7,000 consumers across the world nearly 87% of respondents reported that they were concerned about the environmental and societal impacts of their purchases (Bonini & Oppenheim, 2008). However, in a survey conducted by *Chain Store Age*, only 25% of respondents reported that they had purchased green products (Wilson, 2007). These numbers accentuate a strong need to study green consumer psychology, which would enable manufacturers to better design and market green products that cater to the needs of the consumer while contributing to environmental stewardship at the same time.

One significantly important environmental product that merits further study is organic wine. The Nielsen Company revealed that US organic wine sales has improved 12% in recent years, representing an almost fourfold increase (Nichols, 2009). Wine is a product that contributes significant value to the economic development of many countries. Wine tourism has become a lucrative industry. In addition, wine adds considerable value to restaurant and bar sales, and contributes immensely to culinary and social experiences in both hospitality settings and at peoples’ homes. An increasing trend towards purchasing organic wines, which many

consumers consider to be healthy as well as environmentally beneficial, would further signify a broader consumer trend. However, if the hospitality industry is to facilitate the transition to organic wines, we need to understand the underlying consumer behavior, which will help vineyards, wineries, and retailers to market these products to consumers more effectively.

The overarching purpose of this study is to understand the deeper facets of consumer behavior regarding organic wine. We utilize Schwartz's (1992) values theory, applying Stern (2000) and De Groot and Steg's (2007, 2008) operationalizations of that theory in the context of environmentalism to predict consumers' behavioral intentions related to organic wine. Every human being has a core system of values that guides his consumption decisions. Three primary values – biospheric, altruistic, and egoistic – are known to affect a person's pro-environmental behavior according to Stern (2000). We are interested to know to what extent these core human values guide a consumer's organic wine purchase decisions. In particular, we investigate the underlying roles of biospheric, altruistic, and egoistic values in predicting purchase intention, willingness to sacrifice quality to purchase organic wines, and willingness to pay more to purchase organic wines. Our study proposes a comprehensive model using values theory as the broader framework supported by theoretical analyses of social adaptation, environmental concern, altruism, and green signaling.

2. LITERATURE REVIEW

2.1 Theoretical Basis

Every human behavior emanates from certain core values that an individual possesses. Values are “desirable, trans-situational goals, varying in importance, that serve as guiding principles in people's lives” (Schwartz, 1996, p. 2). Schwartz proposed a broad taxonomy of 56

values and established two dimensions along which to measure these values—self-transcendence versus self-enhancement and openness to change versus conservation (De Groot, 2008; Schwartz, 1994; Schwartz & Bardi, 2001; Schwartz, Melech, Lehman, Burgess, Harris, & Owens, 2001). The self-transcendence versus self-enhancement dimension opposes universalism and benevolence as values to power and achievement, whereas the openness to change versus conservation dimension opposes self-direction and stimulation to security, conformity, and tradition (Schwartz, 2006; Schwartz et al., 2001).

Stern and colleagues (Stern, 2000; Stern & Dietz, 1994; Stern, Dietz, & Kalof, 1993; Stern, Dietz, & Guagnano, 1998) have established that three distinct value orientations influence environmental beliefs and behavior—egoistic, social-altruistic, and “biospheric” values. They have thereby divided Schwartz’s original core values into these three categories to explain environmental behaviors. Egoistic values emphasize individual outcomes while altruistic values involve concern for the welfare of others; biospheric values, a more recent category, involve inherent concern for the environment and the earth’s biological system, the biosphere (De Groot, 2008). We use this nomenclature to analyze the core consumer organic wine behavior in this study.

Social adaptation theory (Kahle, 1983; Kahle, Kulka, & Klingel, 1980; Piner & Kahle, 1984) illustrates the link between values and behaviors. Values mirror the most elemental attributes of adaptation because they are the most abstract of social cognitions. These abstractions operate as archetypes from which attitudes and behaviors are derived (Homer & Kahle, 1988). Research has elaborated the causal link between values and behaviors. According to Williams (1979), “actual selections of behavior result from concrete motivations in specific situations which are partly determined by prior beliefs and values of the actor” (p. 20). Carman

(1978) established a causal association between values and consumption behaviors, establishing the basis for this study's examination of values and organic wine consumption behavior. It is important to acknowledge that behavioral intentions are often used as proxies for actual behaviors. Intention acts as the best predictor of behavior if measured precisely (Fishbein & Ajzen, 1975). Measuring actual behavior can also be more difficult than measuring behavioral intentions. Furthermore, the antecedents of behavioral intentions are more easily measured than are the antecedents of behaviors (Phillips & Jang, 2012; Teng, Wu, & Liu, 2013). We therefore use behavioral intention as a proxy for organic wine-related consumer behavior in this study.

There is a strong rationale behind using the values theory for the purpose of this study. An overarching objective of this study is to know the influence of core human values on organic wine purchase decisions. Some of the popular theories that have been used in the past to explain pro-environmental behaviors such as theory of planned behavior (Ajzen, 1991) and value-belief-norm theory (Stern et al., 1999) mostly utilize norms to predict such behaviors. Theory of planned behavior and theory of reasoned action (Fishbein & Ajzen, 1975) use attitudes instead of values. Attitudes are much more specific and fail to address deeper facets of humans as opposed to values. Other theories such as the environmental commitment model (Davis, Green, & Reed, 2009) and the new environmental paradigm (Dunlap & Van Liere, 1978) only utilize the biospheric/environmental concern angle and fail to acknowledge altruistic and egoistic viewpoints, which also have the capacity to explain pro-environmental behavior. Therefore, we find the values theory is much more comprehensive and takes into account the source from which human behavior emanates. As such, this theory offers the best fit for our study. Besides, this theory has not been used in the past to predict purchase decisions about organic wines.

To complete the construction of the theoretical basis of the study and develop our hypotheses, we devote the next few sections of the paper to explaining what we mean by organic production; how we operationalize purchase intentions, willingness to sacrifice quality to purchase organic wine, and willingness to pay more for organic wines; the theoretical connections between these variables; and the three values we incorporate into the study (biospheric, altruistic, and egotistic). We then summarize the resulting theoretical model.

2.2 Organic Production

Organic farming and production methods utilize natural, organic inputs and sustainable technologies to bring products to the marketplace. Organic agricultural production omits the use of manufactured or ‘artificial’ chemical fertilizers and pesticides to reduce pollution and improve the quality of the soil and the produce it yields (Reed, 2010; Seyfang, 2007). In addition to improving and sustaining soil health, organic production reduces surface and groundwater pollution, promotes habitat and genetic diversity while protecting wildlife, and preserves significant elements of the cultural landscape such as small farms (Biao, Xiaorong, Zhuhong, & Yaping, 2003). According to the United States Department of Agriculture (USDA), the term *organic* is used in product labeling to indicate that the product has been certifiably produced via approved methods that “integrate cultural, biological, and mechanical practices that foster cycling of resources, promote ecological balance, and conserve biodiversity” (USDA 2012, para. 1). In many instances, the organic label makes it easier to market such wines with big supermarkets that highly care about the environment (e.g., Wholefoods). Consumers also are generically willing to pay a higher price for these wines (more on this in the next section) because they are eco-friendly and healthier. Many wineries are making such wines because from a moral and ethical standpoint they feel it is the right thing to do (Golicic, Flint, & Signory,

2016). It is not unusual that some wineries are even giving back to the society a share of their profits. As such, many organic wineries are addressing the triple bottom line of sustainability – people, planet, and profit.

2.3 Purchase Intentions, Willingness to Pay More, and Willingness to Sacrifice Quality

Consumers concerned with protecting the environment by promoting sustainability appreciate eco-friendly packaging practices and organic products, which they perceive as fitting their sense of identity, attitudes, and personal values (Vermeir & Verbeke, 2006). Yiridoe, Bonti-Ankomah, and Martin (2005) undertook a detailed review of empirical studies that compared organic products and their conventionally grown equivalents. They found that consumers worry about food safety and human health, animal welfare, and environmental protection and reparation as primary determinants of organic food purchase intentions. Numerous studies have shown that consumers perceive organic products as healthier and of higher quality as well as being safer for the environment (Magnusson, Arvola, Hursti, Aberg, & Sjoden, 2003; Saba & Messina, 2003; Schifferstein & Oude Ophijs, 1998; Williams & Hammit, 2001).

If we apply these findings to wine purchase intentions, it is reasonable to note the perceived health benefits of organic wine, which would enhance the established health benefits of drinking any wine in moderation. One particular study has shown that consuming about one drink of alcohol a day reduces the incidence of developing heart disease by 14–25% compared with drinking no alcohol at all (Ronksley Brien, Turner, Mukamal, & Ghali, 2011). In addition to providing this benefit, organic wines are produced through a pesticide-free farming process and contain no added sulfites, which are commonly used as preservatives in conventional wines.

Thus, it seems likely that at least some consumers will consider organic wines to be healthier than conventional wines.

In general, there is a population of consumers who are willing to pay a premium price for organic food and beverages. Organic wines are often associated with higher prices, between 25% and 30% above the costs of conventional wines, because of higher production costs as well as the greater utility they provide to consumers who perceive them as healthier and as more environmentally friendly (Brugarolas Mollá-Bauzá, Martínez-Carrasco, Martínez-Poveda, & Rico Pérez, 2005). Moreover, research confirms that some consumers prefer organic over non-organic wines and that they are willing to pay a premium price for such products (Brugarolas Mollá-Bauzá et al., 2005; Forbes, Cohen, Cullen, Wratten, & Fountain, 2009; Fotopoulos & Krystallys, 2001). Forbes et al. (2009) found that around 73% of respondents to a survey indicated that they are willing to pay more for an environmentally sustainable wine. Brugarolas Mollá-Bauzá et al. (2005), in their analysis of Spanish consumers, found that on an average they are willing to pay a premium price of \$16.92. The same study also found that consumers seeking to live a healthy lifestyle are willing to pay more for organic wine than consumers who are concerned with the environment and food/diet but who do not consciously pursue a healthy lifestyle. Moreover, consumers who are willing to pay a premium price for organic wines are making a sacrifice because they are willingly restricting the product class from which they select wine, potentially eschewing traditional wines of higher quality, more valuable vintages, or more respected labels for the same price. This shows they are making a sacrifice when purchasing an organic wine. For simplicity we refer to this as sacrificing quality.

2.4 Organic Wine and Biospheric Values

Studies have identified environmental concern as a major determinant of organic food purchase decisions (Grunert & Juhi, 1995; Hutchins & Greenhalgh, 1997), along with concerns for health (Goldman & Clancy, 1991; Schifferstein & Oude-Ophuis 1998) and animal welfare (Harper & Makatouni, 2002; Hughes, 1995; Tregear, Dent, & McGregor, 1994). These studies provide important insights into consumer behavior. Specifically, these findings indicate that consumers with a biospheric value orientation might prefer organic products such as organic wines because they are environmentally friendly. The same holds true for consumers with highly ecocentric attitudes. However, it is important to note that in one study ecocentric and anthropocentric attitudes were not found to influence organic wine preferences once consumers were permitted to taste wines (Rahman, Stumpf, & Reynolds, 2014). The experimental study of Rahman et al. (2014) revealed that once consumers tasted the wines, only taste influenced their wine repurchase intention but not the consumers' ecocentric or anthropocentric attitudes.

Hypothesis 1: Biospheric values significantly influence organic wine purchase intention; the stronger the values the stronger the intention.

Hypothesis 2: Biospheric values significantly influence the willingness to sacrifice quality to purchase organic wine; the stronger the orientation the stronger the willingness to sacrifice quality.

Hypothesis 3: Biospheric values significantly influence the willingness to pay more for organic wines; the stronger the orientation the stronger the willingness to pay more.

2.5 Organic Wine and Altruistic Values

It is perhaps natural to assume that altruistic values would lead to behavioral intentions related to organic wine. If you believe that organic agriculture is good for the environment and

therefore good for people, you might believe that purchasing organic wine benefits everyone. Studies have determined that both health (Goldman & Clancy, 1991; Schifferstein & Oude-Ophuis 1998) and animal welfare (Harper & Makatouni, 2002; Hughes, 1995; Tregear et al., 1994), as objects of concern, are important predictors of organic food purchase decisions. Thus, the intention to purchase organic wines might indicate not only caring about nature but also concern for the health and welfare of both humans and animals. Insofar as these concerns apply to other people and animals, they express altruistic values. If so, then at least some consumers might purchase organic wines based on the altruistic values that such purchases express. Similarly, altruistic consumers might be willing to pay, or perhaps even prefer paying, premium prices for organic wines, sacrificing their enjoyment of similarly priced non-green wines of higher quality. Consumers motivated thusly by altruism should want to support organic wine producers and farmers in general because of the various health, environmental, and animal welfare benefits.

It is important to note that farmers and manufacturers are not typically saving additional money through organic wine cultivation and production processes. For instance, in green hotels, managers can often save costs through green practices and through the active participation of consumers in initiatives such as towel reuse programs and by means of various signs reminding the consumers to recycle, re-use, and be more mindful. On the other hand, compared with conventional methods of viticulture, production of organic wines costs about a third more (Crescimanno, Ficani, & Guccione, 2002). This further indicates the willingness of consumers who form the intention to purchase organic wines to both pay more to do so and sacrifice some degree of quality in the wines they consume. Therefore, we propose the following hypotheses:

Hypothesis 4: Altruistic values significantly influence organic wine purchase intention; the stronger the values the stronger the intention.

Hypothesis 5: Altruistic values significantly influence the willingness to sacrifice quality to purchase organic wines; the stronger the values the stronger the willingness to sacrifice.

Hypothesis 6: Altruistic values significantly influence the willingness to pay more for organic wines; the stronger the values the stronger the willingness to pay more.

2.6 Organic Wine and Egoistic Values

Wine is a conspicuous consumption good (Podolny, 2005; Veblen, 1953). It is a known fact that organic wines cost much more than their non-organic counterparts. Costly signaling theory suggests that purchasing such wines signals a person's pro-sociality (an altruistic quality) and the ability to incur costs (an egoistic quality). According to this theory, an altruistic act communicates more than a person's pro-sociality, it also communicates the individual's capacity and willingness to sustain costs (Zahavi, 1975). Griskevicius, Tybur, Sundie, Cialdini, Miller, & Kenrick (2010) revealed that environmentally friendly products might express to other consumers that their owners have the capability and will to bear the cost of owning a commodity that has environmental and societal merits but may be substandard for their own personal use. Sexton and Sexton (2013) termed this phenomenon "green signaling," a behavior whereby consumers communicate their status through the conspicuous consumption of green products. To the extent that they undertake such behavior to appear in a favorable light to others, it reflects egoism.

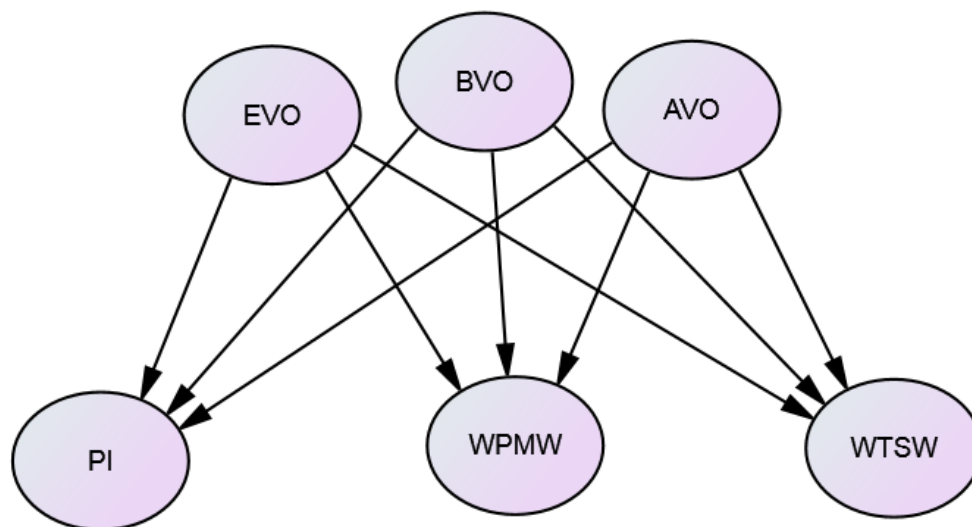
Additionally, organic wines benefit an individual directly. For instance, organic wine is considered healthy as it utilizes a chemical-free farming process and does not contain added preservatives. Similarly, wine in general is considered good for the heart (Ronksley et al., 2011). As such, an egoistic value orientation might lead a consumer to purchase an organic wine out of self-interest because of the product's health benefits. The same motive might also induce a consumer to pay a premium for organic wine. Such a purchase process also indicates the willingness to sacrifice quality by paying a premium price for organic wine. We thereby propose the following hypotheses:

Hypothesis 7: Egoistic values significantly influence organic wine purchase intention; the stronger the values the stronger the intention.

Hypothesis 8: Egoistic values significantly influence the willingness to sacrifice to purchase organic wines; the stronger the value the stronger the willingness to sacrifice.

Hypothesis 9: Egoistic values significantly influence the willingness to pay more for organic wines; the stronger the values the stronger the willingness to pay more.

All these hypotheses lead to the following conceptual model:



Note, EVO = Egoistic Value Orientation; AVO = Altruistic Value Orientation; BVO = Biospheric Value Orientation; PI = Purchase Intention; WPMW = Willingness to Pay More for Organic Wine; WTSW = Willingness to Sacrifice for Organic Wine.

Figure 1: Conceptual Model

3. METHODOLOGY

3.1 Instrument

This study utilized a questionnaire that was prepared and distributed using Qualtrics. Except for the construct “willingness to sacrifice quality to purchase organic wine,” all measures were drawn from existing literature. These measures have been widely used before and, in this regard, are considered valid and reliable. The specifics about these measures are provided in the next section.

We asked ten graduate students along with ten academics with expertise in this area to examine the questionnaire to assess its readability and to assure face validity. These groups were selected in order to get feedback from emerging researchers as well as those seasoned in survey research. Next, a pilot study using undergraduate students was conducted before we proceeded with the main data collection; the purpose here was to ensure that the instrument was easily interpreted by an audience not overly familiar with survey research. (The results are discussed later in the paper.) The Amazon MTurk service was then used for primary data collection. Only persons over 21 years of age were considered and only those familiar with wine and who consumed wine (filtered by an initial qualifying question) completed the survey.

Amazon’s Mechanical Turk (MTurk) provides an ideal set of criteria for conducting such research: an integrated participant compensation system; a large participant pool; and a streamlined process of study design, participant recruitment, and data collection (Buhrmester,

Kwang & Gosling, 2011). MTurk is essentially a crowd-sourcing platform in which tasks, known as hits, are allocated to a population of unidentified workers for completion in exchange for compensation. Buhrmester et al. (2011) compared the quality of data obtained through MTurk and found that such data are at least as reliable as those gathered via conventional techniques and the participants in an MTurk study are more demographically varied than typical Internet-generated sample populations or typical samples of American college students or personnel.

This study sought to test the relationships among latent constructs that cannot be directly observed or measured. Structural equation modeling (SEM) was used to statistically examine the specified relationships between our latent constructs—the three general values constructs and the three behavioral intentions.

3.2 Measures

3.2.1 Value Orientations

Value orientation measures were gathered from De Groot and Steg (2007). Their measures were derived from an abbreviated version of Schwartz's value scale (1992) as envisaged by Stern et al. (1999). The scale consisted of thirteen value items: five items for egoistic values, four items for altruistic values, and four items for biospheric values. As per Schwartz's (1992) suggestion, participants were asked to rate the importance of each these thirteen values "as a guiding principle in their lives" on a seven-point scale ranging from 1, *opposed to my values*, to 7, *extremely important*. In addition, respondents were advised to vary the scores and to rate only a few values as extremely important as per the instructions provided by Schwartz (1992).

3.2.2 Intention to Purchase Organic Wine

Intention to purchase organic wine was measured using three items from Oliver and Lee (2010). The items were re-phrased to fit the product that was measured. The first two items were measured on a seven-point scale (1, *strongly disagree*, to 7, *strongly agree*). The third item, “When you purchase your next wine, how likely are you to purchase an organic wine?” was measured on a seven-point scale that ranged from 1, *extremely unlikely*, to 7, *extremely likely*.

3.2.3 Willingness to Pay More for Organic Wine

Willingness to pay more for organic wine was measured using three items taken from Lee et al. (2010). The three items were modified to reflect a willingness to pay a premium price for organic wines. All the behavioral intention measures we used followed common methodologies in the extant literature (e.g. Boulding, Kalra, Staelin, & Zeithaml, 1993; Cronin & Taylor, 1992; Zeithaml, Berry, & Parasuraman, 1996).

3.2.3 Willingness to Sacrifice Quality for Organic Wine

We could not find a good measure of the willingness to sacrifice quality for organic wine in the related literature. Thus, three items were drafted to measure this variable, following a similar approach used by Rahman & Reynolds (2016) to measure willingness to sacrifice for green hotels. This construct showed very high internal consistency in both the pilot and the main study (> .90). A seven-point scale (from 1, *strongly disagree*, to 7, *strongly agree*) was used to measure willingness to pay more for organic wine and willingness to sacrifice quality for organic wine. Table 1 exhibits all the measures, the Cronbach's alphas, and the items.

3.2.4 Demographics

The instrument also contained demographic questions to ascertain age, gender, education, ethnicity, and income. In addition, we included a question about participants' purchase behavior—the number of glasses of wine consumed per week.

3.3 Pilot Study

For the pilot study, the survey was sent to 160 students in four courses in a college of business. One hundred and twenty completed responses were received, yielding a response rate of 75%. Data screening showed no possible outliers or missing values. Descriptive analyses revealed that 40 participants (33.3%) were male and 80 participants (66.7%) were female. Participants ranged in age from 21 to 36 years with 22 years as the mean. Participants reported consuming, on average, 2 glasses of wine in a week. An item that notes the ethnicity of the participants was added to the questionnaire as per the suggestion of the pilot study participants. In addition, we added some filler questions to ensure that participants pay attention to the questions.

Cronbach's alpha values were calculated for the study measures. The values ranged from .64 to .95. The egoistic values measure was a matter of concern, as the reliability was substantially less than the cut-off value of .70 as suggested by Nunnally (1978). However, it was acceptable based on the criteria suggested by DeVilles (1991). The remaining constructs exhibited Cronbach's alpha values greater than .70.

4. RESULTS

4.1 Data Cleaning

Handling missing data is crucial; non-random missing data can bias survey results (Hair et al., 2009). We required respondents to fill in all responses on the questionnaire in order to

receive course credit for their participation. In Qualtrics there is an option whereby respondents cannot proceed to the next page or submit a survey until they answer all of the questions on the current page. We applied this option to all but the demographic questions. Despite this, fifteen incomplete samples were recorded by Qualtrics for participants. These fifteen responses were deleted using the listwise deletion method, the most commonly used method for disposing of missing values in published studies (Gilley & Leone, 1991). In addition, ten responses were deemed unacceptable because the respondents filled in at least one filler question incorrectly. There was nothing unusual about data normality. Kline (2011) suggested that the cutoff absolute values should be 3.0 for skewness and 8.0 for kurtosis. The skewness values ranged from -.896 to 1.16 and the kurtosis ranged from -1.19 to 2.02, indicating excellent data quality. Three hundred and seventy-five responses were finalized for further data analysis.

4.2 Demographics

Respondents to the main questionnaire ranged from 21 to 73 years of age at an average of 36 years. For the 372 responses received for respondents' gender, 214 (57.5%) were female and 158 (42.5%) were male. Out of 372 responses received for ethnicity, 301 reported being White/Caucasian (80.9%), followed by 24 Asians (6.5%), 22 Black/African Americans (5.9%), 15 Hispanic/Latinos (4%), 7 of mixed-race (1.9%), 2 Native Americans/Alaskans (0.5%), and 1 of another ethnicity (0.3%) Out of 372 responses received for highest education level completed, 127 reported completing some college (34.1%), followed by 124 with a four-year college degree (33.3%), 43 with a high school/GED (11.6%), 34 with an associate's degree (9.1%), 27 with a master's degree (7.3%), 10 with a doctoral degree (2.7%), and 7 who had not completed high school (1.9%). Three hundred and forty-nine participants reported annual incomes ranging from \$1,000 to \$200,000 at an average of \$38,510. The study sample represented all the states of the

United States except Montana, Vermont, Wyoming, and New Mexico. Three hundred and seventy-two participants filled out the question about their wine drinking frequency, which was reported to range from 0 to 21 glasses. The participants consume on average 1.6 glasses of wine per week.

4.3 Measurement Model

CFA yielded the following fit statistics. $\chi^2 = 653.68$; $df = 194$; $p < .001$; $CFI = .93$; $GFI = .86$; $NFI = .91$ $RMSEA = .08$. The GFI value was less than the usually accepted cut-off value of .90. All factor loadings, except for two, were above the recommended minimum of .40 (Ford, MacCallum, & Tait, 1986). Two of the factor loadings under the egoistic value orientation were on the lower side. EVO3 – Ambitious: hardworking, aspiring, and EVO5 – Influential: having an impact on people and events, had very low factor loadings of .26 and .39, respectively. These two items were, therefore, deleted. After deleting these items, the coefficient alpha for the egoistic value orientation improved considerably to .73 from 0.70. The resulting model fit improved considerably, $\chi^2 = 425.91$, $df = 155$, $p < .001$, $RMSEA = .07$, $CFI = .96$, $NFI = .94$, and $GFI = .90$. All the standardized factor loading values were greater than .60, comfortably above the recommended minimum of .40 (Ford et al., 1986). We examined the modification indices as well as the residual co-variances. We found no significant issues noticed. As a result, this CFA model was finalized. The details are presented in tables 1 and 2.

Table 1: Confirmatory Factor Analysis Results and Reliability

Measure	Standardized Loading*	Coefficient Alpha

Biospheric Value Orientation		.94
Preventing pollution: protecting natural resources	.88	
Respecting the earth: harmony with other species	.91	
Unity with nature: fitting into nature	.85	
Protecting the environment: preserving nature	.92	
Altruistic Value Orientation		.87
Equality: equal opportunity for all	.75	
A world at peace: free of war and conflict	.76	
Social justice: correcting injustice, care for the weak	.88	
Helpful: working for the welfare of others	.78	
Egoistic Value Orientation		.73
Social power: control over others, dominance	.86	
Wealth: material possessions, money	.59	
Authority: the right to lead or command	.64	
Purchase Intention (Organic Wine)		.91
When you purchase your next wine, how likely are you to purchase an organic wine?	.73	
I intend to buy organic wine in the near future	.95	
I will make an effort to buy organic wine in the future	.97	
Willingness to Pay More (Organic Wine)		.92
It is acceptable to pay a premium for an organic wine	.75	
I am willing to pay more to buy an organic wine	.97	
	.96	

I am willing to spend extra in order to buy an organic wine		
Willingness to Sacrifice (Organic Wine)		.94
I am willing to sacrifice wine quality by purchasing an organic wine	.98	
I am willing to sacrifice wine taste by purchasing an organic wine	.94	
I am willing to sacrifice wine value by purchasing an organic wine	.84	

*All factor loadings are significant ($p < .05$)

In line with the recommendation of Fornell and Larcker (1981), all constructs demonstrated adequate convergent and discriminant validity. In other words, all constructs had AVE values greater than or equal to .50 and the square of the correlation estimates between these measures was as suggested by Fornell and Larcker (1981). The construct egoistic value orientation was right at the borderline of these criteria.

Table 2: Correlations, Composite Reliability and Average Variance Extracted

Correlations among latent constructs (squared)^a

Measure	EVO	AVO	BVO	PI	WPMW	WTSW	AVE
EVO	1						.50
AVO	-.43 (.19)	1					.63

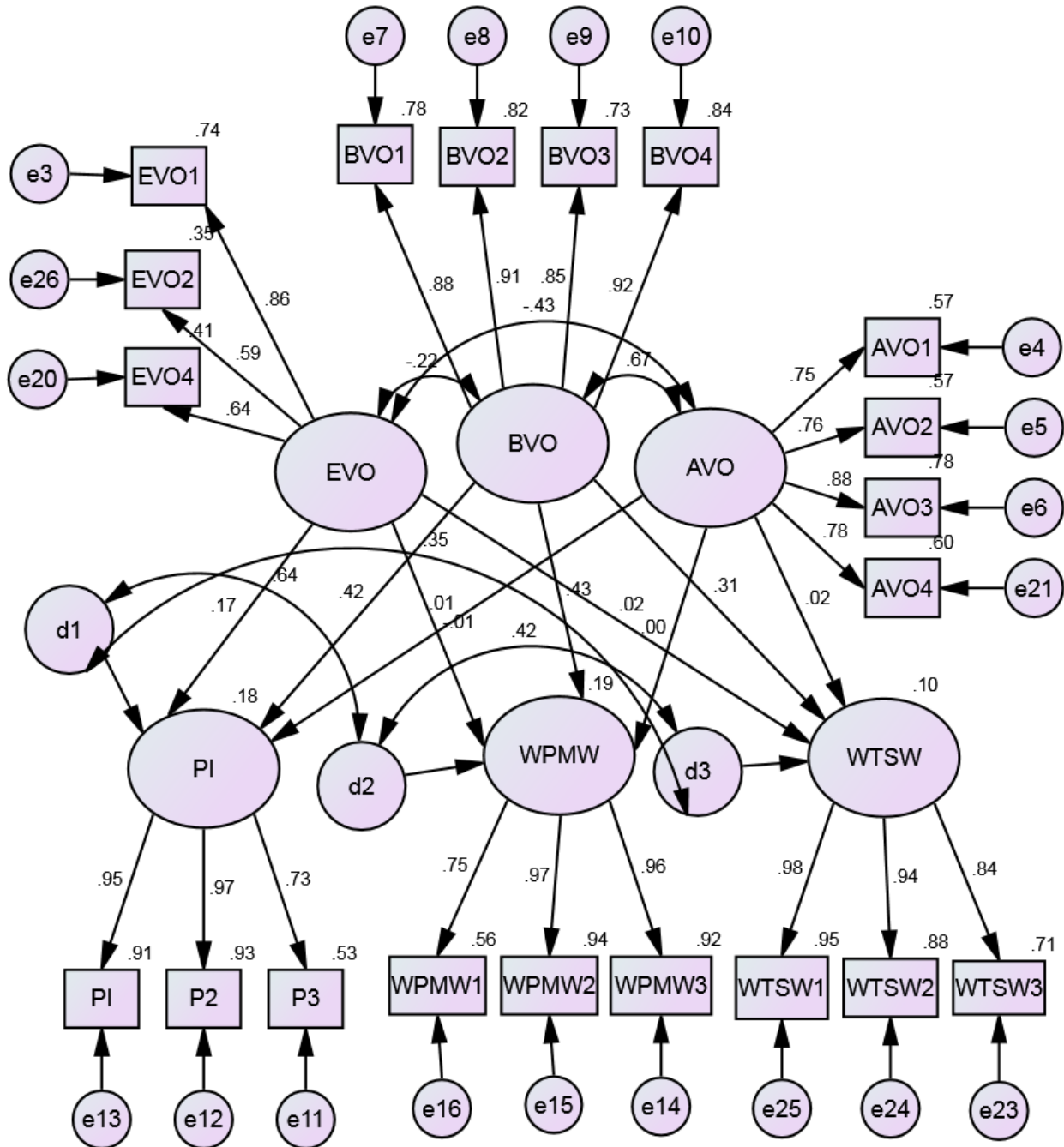
BVO	-.22 (.05)	.67 (.45)	1				.79
PI	-.21 (.04)	.22 (.05)	.39 (.15)	1			.79
WPMW	.07 (.005)	.29 (.08)	.43 (.19)	.69 (.48)	1		.81
WTSW	-.06 (.004)	.22 (.05)	.32 (.10)	.42 (.18)	.50 (.25)	1	.85
Mean	3.1	5.6	5.4	3.5	3.8	3.2	
SD	1.50	1.46	1.44	1.81	1.74	1.65	
Composite	.74	.87	.94	.92	.93	.94	
Reliability							

Note, EVO = Egoistic Value Orientation; AVO = Altruistic Value Orientation; BVO = Biospheric Value Orientation; PI = Purchase Intention; WPMW = Willingness to Pay More for Organic Wine; WTSW = Willingness to Sacrifice for Organic Wine.

^aCorrelation coefficients are estimates from AMOS 21

4.4 Structural Model

The structural model had good model fit as revealed by the fit statistics: $\chi^2 = 425.913$; $df = 155$; $p < .001$; CFI = .96; GFI = .91; RMSEA = .07. The following figure and table presents the results:



Note, EVO = Egoistic Value Orientation; AVO = Altruistic Value Orientation; BVO = Biospheric Value Orientation; PI = Purchase Intention; WPMW = Willingness to Pay More for Organic Wine; WTSW = Willingness to Sacrifice for Organic Wine.

Figure 2: Structural Model Results – The Organic Wine Model

Table 3: Structural Path Estimates

Hypothesis	Path	Coefficients	t-value	Results
1	Biospheric Value Orientation (BVO) → Purchase intention (PI)	.42	5.45**	Supported
2	Biospheric Value Orientation (BVO) → Willingness to Sacrifice for Organic Wine (WTSW)	.31	4.05**	Supported
3	Biospheric Value Orientation (BVO) → Willingness to Pay More for Organic Wine (WPMW)	.43	5.88**	Supported
4	Altruistic Value Orientation (AVO) → Purchase Intention (PI)	.01	.09	Not supported
5	Altruistic Value Orientation (AVO) → Willingness to Sacrifice for Organic Wine (WTSW)	.02	.23	Not supported
6	Altruistic Value Orientation (AVO) → Willingness to Pay More for Organic Wine (WPMW)	-.001	-.01	Not supported
7	Egoistic Value Orientation (EVO) → Purchase Intention (PI)	.17	2.60*	Supported

8	Egoistic Value Orientation (EVO) → Willingness to Sacrifice for Organic Wine (WTSW)	.02	.28	Not supported
9	Egoistic Value Orientation (EVO) → Willingness to Pay More for Organic Wine (WPMW)	-.01	-.21	Not supported

**p < .001; *p < .05

While controlling for the effects of the egoistic value orientation and the altruistic value orientation, the biospheric value orientation positively and significantly influenced organic wine purchase intention ($\beta = .42$; $p < .001$). Thus, hypothesis 1 is supported. While controlling for the effects of the egoistic value orientation and the altruistic value orientation, the biospheric value orientation positively and significantly influenced the willingness to sacrifice quality for organic wine ($\beta = .31$; $p < .001$). While controlling for the effects of the egoistic value orientation and the altruistic value orientation, the biospheric value orientation positively and significantly influenced the willingness to pay more for organic wine ($\beta = .43$; $p < .001$). Therefore, hypotheses 2 and 3 are also supported. Lastly, while controlling for the effects of the altruistic value orientation and the biospheric value orientation, the egoistic value orientation positively and significantly influenced organic wine purchase intention ($\beta = .17$; $p < .05$), supporting hypothesis 7.

We could not confirm five of the hypotheses. None of the hypotheses relating to the altruistic value orientation was supported. While controlling for the effects of the egoistic value orientation and the biospheric value orientation in each case, the altruistic value orientation did not significantly influence organic wine purchase intention ($\beta = .01$; $p > .05$), or the willingness

to sacrifice quality for organic wine ($\beta = .02$; $p > .05$). Moreover, while controlling for the effects of the egoistic value orientation and the biospheric value orientation, the altruistic value orientation did not positively or significantly influence the willingness to pay more for organic wine ($\beta = -.001$; $p > .05$). In addition, the egoistic value orientation did not positively or significantly influence the willingness to pay more for organic wine ($\beta = -.01$; $p > .05$) while controlling for the effects of the altruistic and biospheric value orientations. Finally, while controlling for the effects of the altruistic and biospheric value orientations, the egoistic value orientation did not have a significant effect on the willingness to sacrifice quality for organic wine ($\beta = .02$; $p > .05$).

We further assessed the model with respect to the sub-samples. First, we divided the sample by gender and tested the model empirically. The results followed similar patterns and no substantial differences were observed. Next, we considered the underlying role of drinking frequency. We divided the sample into heavy drinkers and light drinkers. We defined heavy drinkers as participants who reported drinking more than two glasses of wine per week while we defined light drinkers as participants who reported drinking drank two or fewer glasses of wine per week. We observed two measurable differences in the results for heavy drinkers. While controlling for the effects of biospheric and altruistic values, the effect of egoistic values on organic wine purchase intention was found to be insignificant ($\beta = .14$; $p = .16$). In addition, the effect of biospheric values on the willingness to sacrifice quality for organic wine was insignificant ($\beta = .15$; $p = .21$) while controlling for the effects of altruistic and egoistic values. We must acknowledge that the model fits for these four groups were not very convincing:

Table 4: Multi-Group Model-Fit Statistics

	Chi-square	df	RMSEA	CFI	NFI	GFI
Gender						
Male (158)	271.55	155	.07	.95	.90	.86
Female (214)	337.36	155	.07	.95	.92	.88
Drinking Frequency						
Light drinkers (204)	374.32	155	.08	.93	.89	.85
Heavy drinkers (171)	289.18	155	.07	.95	.90	.87

5. DISCUSSION

The strong predictive power of biospheric values regarding organic wine behavioral intentions was apparent in our results. First, biospheric values significantly and positively influenced organic wine purchase intention while controlling for the effects of altruistic and egoistic values. This shows that consumers with strong biospheric values or, in other words, consumers who are inherently concerned about the environment, would be more likely than others to purchase organic wines. Conversely, consumers with weak biospheric values, those who do not care much about nature, would be less likely to embrace organic wines. These results are consistent with previous findings according to which environmental attitudes have successfully predicted a willingness to purchase environmentally friendly wines such that the stronger the environmental attitude the greater is the willingness to purchase (e.g., Barber, Taylor, & Strick, 2009). In the same way, environmental behavior has also been found to influence organic wine purchase intention (Barber, Taylor, & Deale, 2010). However, these findings are useful as part of the larger model, which has not been previously tested.

Our results also revealed that consumers with strong biospheric values are willing to sacrifice quality, taste, and value for organic wines. On the contrary, consumers with weak biospheric values are less likely to sacrifice quality, taste, or value to purchase organic wine. In reality, consumers have associated organic wines with not having genuine taste and not providing good value for the money (Sirieix & Remaud, 2010). According to Delmas and Grant (2014), consumers associate eco-labels on wines with low quality even though organic wines can be of higher quality than conventional wines. In this study, we received low mean ratings for items measuring the willingness to sacrifice quality for organic wines. What is notable is that the respondents were particularly sensitive about wine taste. Thus, the notion that green products must attain consumer acceptance on the basis of intrinsic attributes that are similar to those they associate with their conventional non-green counterparts strongly applies in the case of organic wines. This is most probably due to consumer involvement. Wine is considered a high-involvement product (Hall & Mitchell, 2002) and consumers are expected to be particularly sensitive about the core sensory attributes of wine such as taste. However, this notion does not apply in the same way to consumers with strong biospheric values.

Additionally, consumers with strong biospheric values or concern for the environment are willing to pay higher prices for organic wines. On the other hand, consumers with weak biospheric values are not willing to pay higher prices for organic wines. Thus, consumers with stronger biospheric values are not only willing to sacrifice value, convenience, and luxury to purchase organic wines, they are also comfortable with paying higher prices for organic wines. Studies have indicated that consumers who endorse organic wines are willing to pay a premium that can range from 20–25% (Brugarolas Mollá-Bauzá et al., 2005; Ogbeide, Ford, & Stringer, 2014; Remaud, Mueller, Chvyl, & Lockshin, 2008). It is possible that, for consumers with strong

biospheric values, this premium could be substantially larger. This translates into a clear message for wine marketers who would seem to have an opportunity to charge higher prices for organic wines if they expect to be marketing to strongly biospheric consumers, but they run the risk of losing other consumer types if they do so. In addition, marketers cannot discount the effect of quality credentials on organic wine endorsements. It has been suggested that green products need to meet the quality credentials of their conventional counterparts in order to stimulate purchases. An experimental study conducted by Rahman et al. (2014) showed that in order to stimulate repeat purchases organic wines need to meet consumers' taste expectations. The fact that a wine is organic, although it might be enough to stimulate a first-time purchase even for ecocentric consumers, does not guarantee repeat purchasing of that wine unless consumers appreciate its taste.

Next, we found that the effect of egoistic values on organic wine purchase intentions while controlling for the effects of biospheric and altruistic values was such that the stronger the egoistic values the stronger the purchase intention. As egoistic values prompt individuals primarily to appreciate or protect aspect of the environment that influence them personally, its influence on organic wine purchase intention is understandable. Wine has been widely regarded as a conspicuous consumption good (Podolny, 2005; Veblen, 1953). Organic wines are more expensive than conventional wines. Typically, producing wines organically costs one-third more compared with normal methods (Crescimanno et al., 2002). This extra cost is reflected in the final price consumers pay. Likewise, the consensus among consumers is that organic wines are more expensive compared with their non-organic counterparts (Sirieix & Remaud, 2010). Purchasing organic wines, as such, can signal a person's pro-sociality and the capacity to incur costs, as per costly signaling theory.

That wine consumption is often a public experience adds to the costly signaling phenomenon. After all, wine is a social lubricant (Thach, 2011). In the hospitality industry, the majority of wine sales occur in restaurants, banquet centers, bars, and nightclubs (Hall, O'Mahony, & Lockshin, 2001; Hall, Binny, & O'Mahony, 2004). In such settings, wine contributes to socializing, relaxation, and learning (Barber, 2005). In the tourism industry, travelers seek wine tourism experiences through diverse channels such as cultural heritage events and festivals, dining and lodging experiences, education, formal wine tastings, cellar door sales, and winery tours (Charters & Ali-Knight, 2002). Thus, wine consumption is very much considered a public phenomenon that acts as a trigger for costly signaling and contributes to making wine consumption a means of enhancing one's social status.

Organic wine utilizes a chemical-free farming process and does not add excessive preservatives. That is why consumers view organic wines as good for their health (Sirieix & Remaud, 2010). This is consistent with the widespread perception that wine generally is good for the heart (Ronksley et al., 2011). If these claims are true, consumers benefit directly from consuming wines. Perceived benefits constitute one of the overarching reasons consumers embrace a product. The same applies to organic wines in comparison with conventional wines. The perception that organic wine is good for one's health explains the significant positive effect of egoistic values on organic wine purchase intention. Thus, wine marketers should pitch it as healthy, which most seem to understand.

Egoistic values did not significantly influence consumers' willingness to sacrifice quality for organic wines. The result is consistent with the direction hypothesized, yet still raises questions. It shows that although egoistic values can influence organic wine purchase intention, it will not influence consumers' willingness to sacrifice quality for such wines. Consumers might

feel organic wines add to their personal benefits but not to the extent that they will be willing to sacrifice the quality, taste, and value associated with the good wine. Egoistic values also did not significantly influence consumers' willingness to pay more for organic wines. This is surprising insofar as the effect runs in the opposite direction of what was hypothesized and what the literature suggested. Although the effect was not significant, this result suggests that the stronger the egoistic values the lower the willingness to pay more for organic wines. Numerous studies have shown that consumers are willing to pay a premium for organic wines (e.g., Brugarolas Mollá-Bauzá et al., 2005; Ureña, Bernabéu, & Olmeda, 2008; Bazoche, Deola, & Soler, 2008). However, the majority of such studies take into account only consumers who are willing to endorse organic wines. In many cases, consumers who will not consider organic wines are ignored. In reality there are many consumers who feel organic wines are not as tasty as conventional wines and, as such, they are not willing to pay more for them. For these consumers, even though they feel that consuming organic wine has certain personal benefits, they might not be willing to pay more.

We could not find significant support for the effects of altruistic values on any of the behavioral intentions while controlling for the effects of biospheric and egoistic values. Most of these effects, although they were not significant, were in the hypothesized direction, very slightly tilted towards the negative direction. It is worth mentioning that people with strong altruistic values will inherently be concerned for the well-being of others. However, this goodwill towards others did not warrant organic wine endorsement in our study. Although organic wines have health and environmental benefits, altruistic values do not significantly influence purchase intention. As noted, this was not the case for egoistic values. This shows that with organic wines the personal benefits might outweigh the benefits to others.

Consumers generally are not willing to sacrifice taste, quality, or value for organic wines. Even for highly altruistic consumers this fact is very much evident from the results. A similar conclusion is drawn from the finding that consumers in the sample who have strong altruistic values are not willing to pay a premium for organic wines. This effect was almost equal to zero.

A very important finding emerged from the multi-group test we conducted. The assessment revealed contrasting results for heavy (more than two glasses per week) and light (two or fewer glasses per week) wine drinkers. For heavy drinkers, biospheric values did not significantly influence the willingness to sacrifice quality attributes for organic wine. In addition, egoistic values did not influence purchase intention on the part of heavy drinkers. This might be because heavy wine drinkers tend to have high involvement with wine. Studies have shown that drinking frequency positively influences wine involvement (Rahman & Reynolds, 2015; Klatsky, Armstrong, & Kipp, 1990; Hall et al., 1997; Quester & Smart, 1998; Hollebeek, Jaeger, Brodie, & Balemi, 2007). Highly involved drinkers generally prioritize taste, quality, and other internal attributes of wines regardless of whether they are organic, are good for their health, or enhance their social status. These consumers enjoy wine because of its intrinsic characteristics. As a result, biospheric values were not found to influence the willingness to sacrifice quality for organic wine. Such consumers are not ready to sacrifice wine quality because of their concern for the environment but they are ready to purchase organic wines and even pay a premium because of the same environmental concern. These consumers also most likely will not endorse a wine just because it is considered healthy or it improves their social status. Thus, their egoistic values do not influence the organic wine purchase intention, willingness to sacrifice quality for organic wine, or willingness to pay more for organic wine.

In conclusion, we stress an important point. The extremely strong data identified biospheric values as a predictor of behavioral intentions, indicating the usefulness of eco-labels. However, recent research has indicated that organic wines are comparatively poorly rated and sell for less when they are accompanied by eco-labels (Delmas & Grant, 2014). In other words, organic wines are better received if consumers do not know that they are organic. On the other hand, numerous price studies have proved that consumers are willing to pay more for organic wines. Thus, there appears to be an *attitude/behavior gap* or *values/action gap* in the case of organic wine endorsement. This might be due to misinformation or missing information about organic wines and the organic farming process. The perception that organic wines are lower in quality persists even though in tests such wines often are reported as offering superior quality. These perceptions can be corrected only if consumers are made more knowledgeable. Thus, wineries, manufacturers, retailers, government agencies, and educational institutes should effectively communicate information about organic wines and the winemaking process to facilitate the endorsement of such wines.

5.1 Limitations

This study utilized a self-report instrument asking participants to rate their general values and environmental behavioral intentions. Social desirability bias might have affected the objectivity of the sample, leading participants to respond dishonestly to questionnaire items. The study failed to take participants' prior knowledge regarding organic wines into account. Although non-drinkers were screened from the sample that was used for the finalized model, consumers' experience and knowledge were not assessed. The sample size was arguably somewhat small for some of the analyses. For example, the sample was not large enough to support invariance tests regarding ethnicity, education, or income. Lastly, the study used

Amazon's MTurk as a platform for data collection. As a result, such limitations of MTurk as lack of control, deceptive responses, and rushed responses may be cause for concern.

5.2 Implications

In reviewing the study's more noteworthy implications, we note the markedly robust effect of biospheric values on organic wine behavioral intentions, which makes a strong case for informing consumers about the environmental goodwill that is expressed through consumption of organic wines. This indicates the strategic advantage of eco-labeling. Wineries can incorporate practices that create a sense of accomplishment for the highly ecocentric consumer, improving his patronage intention, willingness to pay more, and willingness to sacrifice quality. Thus, organic wine farmers, manufacturers, and retailers might find that untapped opportunities can be realized by involving the strongly biospheric consumer in the environmental management process. The very nature of this product makes it challenging for manufacturers, retailers, and vendors to devise ways to involve consumers in the environmental management process. However, wineries and restaurants might offer initiatives that involve the environmentally concerned customer through educational programs, tours, or supportive media. Some suggestions include more emphasis on environmental issues and how these wineries are addressing them in the wine tours. Educating consumers about relevant environmental issues such as damage to the ecosystem, biodiversity, and soil and then going over how organic farming techniques reduce those damages can be a fruitful strategy to undertake for wineries. It will also be beneficial if wineries provide information to the consumers about how they are addressing the triple bottom line of sustainability. It is important to make these experiences more interactive and informative for the consumers.

The study offers several lessons from its findings related to egoistic values. Green products that offer personal benefits to consumers, such as organic wines, should be marketed as beneficial for the self as well as for the environment. The results also underscore the nature of the consumption experience. Green signaling might be present with products that involve a more public consumption experience. Wine itself is a conspicuous consumption good. Organic wine with its price premium and environmental image is a perfect product through which consumers can establish and enhance their green identity. However, green signaling and the appeal of personal benefits might not interest heavy wine drinkers or highly involved wine consumers. Thus, businesses that normally attract wine connoisseurs, heavy drinkers, and experienced wine tourists should not emphasize personal benefits or green signaling in their consumer messaging. Even if such consumers have harbored strong biospheric values, they might not endorse organic wine. Thus, to attract and better serve this group of consumers, the spotlight should be on the taste and quality credentials of the wine.

Our study also yields implications for research. The study developed a conceptual model using a unique combination of factors and related theories—values theory, social adaptation theory, environmental concern, altruism, and green signaling. In the context of organic wines, this offers a novel perspective for theoretical analysis. As such, this study adds to the extant literature by incorporating the environmental concern perspective, the social-altruistic perspective, and the personal benefits and status perspectives to inform the analysis of what leads consumers to embrace organic wines.

For future research, it will be worthwhile to see how involvement plays a part in the model. It is suggested that the model be tested with samples representing consumers with varying involvement levels about wines. This might generate some strong implications for the

industry as the proposed relationships might be different for consumers with different levels of wine involvement.

6. CONCLUSION

This study investigated facets that underlie green consumer behavior. In particular, three core environmental values—biospheric, altruistic, and egoistic—were analyzed in terms of their influence on behavioral intentions pertaining to organic wine. We studied three behavioral intentions: organic wine purchase intention, willingness to sacrifice quality for organic wine, and willingness to pay more for organic wine. In summary, we found that, in addition to an inherent concern for the environment, various status motives seem to elicit organic wine endorsement. Organic wine has a certain degree of status associated with it and its consumption is often a public practice. As a result, organic wine must appeal to consumers as a product that enhances their social status. Consumers also would increasingly embrace an organic wine if it represents personal benefits, which can be health-related or economic. However, egoistic values neither cause consumers to pay more for organic wine nor to sacrifice quality for products in this category.

Evidently, the onus is on businesses to lead the way and strive to produce environmental products that are affordable, rich in quality and performance, and are associated with candid marketing claims (Rahman, Park, & Chi, 2016; Rahman, Reynolds, & Svaren, 2012). The overarching objective should be to give consumers no reasons to go for an alternative, one that is more harmful to the environment. Not surprisingly, consumers attribute perceived price premiums for green products as the overarching rationale for their preferences for conventional (not green) products (Cobrada & Hebard, 2010; GreenBiz, 2010). This is probably one of the primary reasons behind the *attitude/behavior gap* or *values/action gap* regarding green products.

Consumers appear to be concerned about environmental issues but struggle to transform their concern into actual purchases (Young, Hwang, McDonald, & Oates, 2010; Thompson & Burton, 1993). In retrospect, consumers want to be environmentally friendly but they also seem to want businesses to show them the way and be more pro-active. In a popular survey, 61% of consumers reported that they want businesses to lead the environmental stewardship (Bonini & Oppenheim, 2008). It is high time businesses recognize this opportunity and respond accordingly by making green products more reasonably priced, leveraging the buying power of consumers, educating consumers about green products, matching the performance and standards of green products with conventional products, communicating with customers more effectively, and last but not least understanding the needs of the consumer.

7. REFERENCES

- Ajzen, I. 1991. The theory of planned behavior. *Organizational Behavior and Human Decision Processes* 50 (2): 179-211.
- Barber, N. 2005. *Wine label design, information and bottle packaging: Influence on wine buying behaviors*. Published, master's thesis, Purdue University, West Lafayette, IN.
- Barber, N., C. Taylor, & C. S. Deale. 2010. Wine tourism, environmental concerns, and purchase intention. *Journal of Travel & Tourism Marketing* 27 (2): 146-165.
- Barber, N., C. Taylor, & Strick, S. 2009. Wine consumers' environmental knowledge and attitudes: influence on willingness to purchase. *International Journal of Wine Research* 1 (1): 59-72.
- Bazoche, P., C., Deola, & L. G., Soler. 2008, August. An experimental study of wine consumers' willingness to pay for environmental characteristics. In *12th Congress of the European Association of Agriculture Economists*. INRY.
- Biao, X., W., Xiaorong, D., Zhuhong, & Y., Yaping. 2003. Critical impact assessment of organic agriculture. *Journal of Agricultural and Environmental Ethics* 16 (3): 297-311.
- Bonini, S. M. J. & J. M., Oppenheim. 2008. Helping 'green' products grow. *The McKinsey Quarterly*. <http://www.data360.org/pdf/20081029174901.08-10-29%20McKinley%20Green%20Perception.pdf> (accessed April 1, 2014)
- Boulding, W., A. Kalra, R. Staelin, & V. A. Zeithaml. 1993. A dynamic process model of service quality: from expectations to behavioral intentions. *Journal of Marketing Research* 30 (1): 7-27.

- Brugarolas Mollá-Bauzá, M. M., L. Martínez-Carrasco, A. Martínez-Poveda, and M. Rico Pérez. 2005. Determination of the surplus that consumers are willing to pay for an organic wine. *Spanish Journal of Agricultural Research* 3 (1): 43-51.
- Buhrmester, M., T. Kwang, & S. D. Gosling. 2011. Amazon's Mechanical Turk a new source of inexpensive, yet high-quality, data? *Perspectives on Psychological Science* 6 (1): 3-5.
- Carman, J. H. 1978. Values and consumption patterns: A closed loop. *Advances in consumer research* 5 (1): 403-407.
- Charters, S., & J. Ali-Knight. 2002. Who is the wine tourist? *Tourism management* 23 (3): 311-319.
- Cobrda, W., & A.J. Hebard. 2010. Hot spots & hot buttons: The consumer lens into sustainability. Research Proposal by Earthsense for The Sustainability Consortium's Consumer Science Working Group. http://www.sustainabilityconsortium.org/wp-content/uploads/Earthsense_Response_to_RFP_May_21_2010.pdf (Accessed March 14, 2014).
- Crescimanno, M., G.B. Ficani, & G. Guccione. 2002. The production and marketing of organic wine in Sicily. *British Food Journal* 104 (3/4/5): 274-286.
- Cronin, J. J., & S. A. Taylor. 1992. Measuring service quality: a reexamination and extension. *Journal of Marketing* 56 (3): 55-68.
- Davis, J. L., Green, J. D., & Reed, A. 2009. Interdependence with the environment: Commitment, interconnectedness, and environmental behavior. *Journal of Environmental Psychology* 29 (2): 173-180.

- De Groot, J. I. M., & L. Steg. 2007. Value orientations and environmental beliefs in five countries: validity of an instrument to measure egoistic, altruistic and biospheric value orientations. *Journal of Cross-Cultural Psychology* 38 (3): 318-332.
- De Groot, J. I. M., & L. Steg. 2008. Value orientations to explain environmental attitudes and beliefs: how to measure egoistic, altruistic, and biospheric value orientations. *Environment and Behavior* 40 (3): 330-354.
- Delmas, M. A., & L. E., Grant. 2014. Eco-Labeling strategies and price-premium: The wine industry puzzle. *Business & Society*, 53 (1): 6-44.
- DeVilles, R. 1991. *Scale development*. Applied Social Research Methods, Vol. 28. Newbury Park, CA: Sage.
- Dunlap, R. E., & Van Liere, K. D. 1978. The “new environmental paradigm”. *The Journal of Environmental Education* 9 (4): 10-19.
- Fishbein, M. & Ajzen, I. 1975. *Belief, attitude, intention and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.
- Forbes, S. L., D. A. Cohen, R. Cullen, S. D. Wratten, & J. Fountain. 2009. Consumer attitudes regarding environmentally sustainable wine: an exploratory study of the New Zealand marketplace. *Journal of Cleaner Production* 17 (13): 1195-1199.
- Ford, J. K., R. C. MacCallum, & M. Tait. 1986. The application of exploratory factor analysis in applied psychology: A critical review and analysis. *Personnel psychology* 39 (2): 291-314.
- Fornell, C., & D. F. Larcker. 1981. Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research* 18 (1): 39-50.

- Fotopoulos, C., & A. Krystallis. 2001. Defining the organic consumer and his willingness to pay for selected food products in Greece: a countrywide survey. In *Proceedings of 51st Atlantic Economic Society Conference*, (pp. 13-20). Athens.
- Goldman, B.J., & K.L. Clancy. 1991. A survey of organic produce purchases and related attitudes of food cooperative shoppers. *American Journal of Alternative Agriculture*, 6 (2): 89–96.
- Golicic, S.L., Flint, D.J., & Signori, P. 2016. The Triple Bottom Line in the Global Wine Industry. *9th International Conference of the Academy of Wine Business Research*. Retrieved January 14, 2016 from <http://academyofwinebusiness.com/wp-content/uploads/2016/03/45.-The-Triple-Bottom-Line-in-the-Global-Wine-Industry-.pdf>
- GreenBiz. 2010, January 26. *Consumers want to buy green, but economic woes stifle the market*. <http://www.greenbiz.com/news/2010/01/26/consumers-want-buy-green-economic-woes-stifle-market> (accessed March 14, 2014).
- Gilley, O. W., & R. P. Leone. 1991. A two-stage imputation procedure for item nonresponse in surveys. *Journal of Business Research* 22 (4): 281-291.
- Griskevicius, V., J. M. Tybur, J. M. Sundie, R. B. Cialdini, G. F. Miller, & D. T. Kenrick. 2007. Blatant benevolence and conspicuous consumption: When romantic motives elicit strategic costly signals. *Journal of Personality and Social Psychology* 93 (1): 85-102.
- Grunert, S.C., & H.J. Juhi. 1995. Values, environmental attitudes and buying of organic foods. *Journal of Economic Psychology* 16 (1): 63-72.
- Hair Jr, J. F., W. C. Black, B. J. Babin, & R. E. Anderson. 2009. *Multivariate data analysis* (7th edition). Upper Saddle River, NJ: Prentice Hall.

- Hall, J., W. Binny, & G. O'Mahony. 2004. Age related motivational segmentation of wine consumption in a hospitality setting. *International journal of wine marketing* 16 (3): 29-44.
- Hall, J., M. Shaw, & I. Doole. 1997. Cross-cultural analysis of wine consumption motivations. *International Journal of Wine Marketing* 9 (2): 83-93.
- Harper, G.C., & A. Makatouni. 2002. Consumer perception of organic food production and farm animal welfare. *British Food Journal* 104 (3/4/5): 287–299.
- Hollebeek, L.D., S.R. Jaeger, R.J. Brodie, & A. Balemi. 2007. The influence of involvement on purchase intention for new world wine. *Food Quality and Preference* 18 (8): 1033-1049.
- Homer, P. M., & L.R. Kahle. 1988. A structural equation test of the value-attitude-behavior hierarchy. *Journal of Personality and Social Psychology* 54 (4): 638-646.
- Hughes, D. 1995. Animal welfare: The consumer and the food industry. *British Food Journal* 97 (10): 3-7.
- Hutchins, R.K., & L.A. Greenhalgh. 1997. Organic confusion: Sustaining competitive advantage. *British Food Journal* 99 (9): 336-338.
- Kahle, L, R. 1983. *Social values and social change: Adaptation to life in America*. Westport, CT: Praeger Publishers.
- Kahle, L, R, R. A. Kulka, & D.M. Klingel. 1980. Low adolescent self-esteem leads to multiple interpersonal problems: A test of social adaptation theory, *Journal of Personality and Social Psychology* 39 (3): 496-502.

- Klatsky, A. L., M. A. Armstrong, & H. Kipp. 1990. Correlates of alcoholic beverage preference: Traits of persons who choose wine, liquor or beer. *British Journal of Addiction* 85 (10): 1279-1289.
- Kline, R. B. 2011. *Principles and practice of structural equation modeling*. New York: Guilford Press.
- Magnusson, M. K., A. Arvola, U. K. K. Hursti, L. Åberg, & P. O. Sjöden. 2003. Choice of organic foods is related to perceived consequences for human health and to environmentally friendly behaviour. *Appetite* 40 (2): 109-117.
- Nichols, R. 2009, December 03. *The green wine summit: Wine consumers are positive about sustainability*. <http://www.winebusiness.com/news/?go=getArticle&dataid=69552> (accessed April 01, 2014).
- Nunnally, J.C. 1978. *Psychometric theory* (2nd ed). New York: McGraw-Hill.
- Oliver, J.D., & S-H. Lee. 2010. Hybrid car purchase intentions: a cross-cultural analysis. *Journal of Consumer Marketing* 27 (2): 96-103.
- Peattie, K. 2006. *Green Marketing*. London: Pitman Marketing.
- Phillips, W. J., & S. C. Jang. 2012. Exploring seniors' casino gaming intention. *Journal of Hospitality & Tourism Research* 36 (3): 312-334.
- Piner, K. E., & L.R. Kahle. 1984. Adapting to the stigmatizing label of mental illness: foregone but not forgotten. *Journal of Personality and Social Psychology* 47 (4): 805-811.
- Podolny, J.M. 2005. *Status signals: A sociological study of market competition*. Princeton, NJ: Princeton University Press.

- Quester, P. G., & J. Smart. 1998. The influence of consumption situation and product involvement over consumers' use of product attribute. *Journal of Consumer Marketing* 15 (3): 220-238.
- Rahman, I. & D. Reynolds. 2016. Predicting green hotel behavioral intentions using a theory of environmental commitment and sacrifice for the environment. *International Journal of Hospitality Management*. (in press).
- Rahman, I. & D. Reynolds. 2015. Wine: An empirical analysis of intrinsic attributes and consumers' drinking frequency, experience, and involvement. *International Journal of Hospitality Management* 44 (1): 1-11.
- Rahman, I., D. Reynolds, & S. Svaren. 2012. How "green" are North American hotels? An exploration of low-cost adoption practices. *International Journal of Hospitality Management* 31 (3): 720-727.
- Rahman, I., J., Park, & G., Chi. 2015. Consequences of "greenwashing": Consumers' reactions to hotels' green initiatives. *International Journal of Contemporary Hospitality Management*, 27 (6). 1054-1081.
- Rahman, I., T. Stumpf, & D. Reynolds. 2014. A comparison of the influence of purchaser attitudes and product attributes on organic wine preferences. *Cornell Hospitality Quarterly* 55 (1): 127-134.
- Reed, M. 2010. Fight the future! How the contemporary campaigns of the UK organic movement have arisen from their composting past. *Sociologica Ruralis* 41 (1): 131-45.
- Remaud, H., S. Mueller, P. Chvyl, & L. Lockshin. 2008. *Do Australian wine consumers value organic wine?* In *proceedings of the 4th International Academy of Wine Business*

- Research Conference*. Sienna. http://academyofwinebusiness.com/wp-content/uploads/2010/04/Do-Australian-wine-consumers-value-organic-wine_paper.pdf (accessed March 5, 2014).
- Ronksley, P.E., S.E. Brien, B.J. Turner, K.J. Mukamal, & W.A. Ghali. 2011. Association of alcohol consumption with selected cardiovascular disease outcomes: a systematic review and meta-analysis. *British Medical Journal* 342.
- Saba, A., & F. Messina. 2003. Attitudes towards Organic Foods and Risk/Benefit Perception Associated with Pesticides. *Food Quality Preference* 14 (8): 637–45.
- Schifferstein, H. N. J., & P. Oude-Ophuis. 1998. Health-related determinants of organic food consumption in The Netherlands. *Food Quality and Preference* 9 (3): 119-33.
- Schwartz, S. H. 1992. Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. *Advances in Experimental Social Psychology* 25 (1): 1-65.
- Schwartz, S. H. 1994. Are there universal aspects in the structure and contents of human values? *Journal of Social Issues* 50 (4): 19-45.
- Schwartz, S. H. 1996. Value priorities and behavior: Applying a theory of integrated value systems. In C. Seligman, J. M. Olson & M. P. Zanna (Eds.), *The psychology of values* (Vol. 8, pp. 1–24), Mahwah, NJ: Erlbaum.
- Schwartz, S. H. 2006. Basic human values: An overview. <http://segrdid2.fmag.unict.it/Allegati/convegno%207-8-10-05/Schwartzpaper.pdf> (accessed May 5, 2014).
- Schwartz, S. H., & A. Bardi. 2001. Value hierarchies across cultures. Taking a similarities perspective. *Journal of Cross-Cultural Psychology* 32 (3): 268-290.

- Schwartz, S. H., G. Melech, A. Lehman, S. Burgess, M. Harris, & V. Owens 2001. Extending the crosscultural validity of the theory of basic human values with a different method of measurement. *Journal of Cross-Cultural Psychology* 32 (5): 519-542.
- Sexton, S. E., & A. E. Sexton 2013. Conspicuous conservation: The Prius halo and willingness to pay for environmental bona fides. *Journal of Environmental Economics and Management*.
- Seyfang, G. 2007. Growing sustainable consumption communities: The case of local organic food networks. *International Journal of Sociology and Social Policy* 27 (3-4): 120-34.
- Sirieix, L., & H. Remaud. 2010. Consumer perceptions of eco-friendly versus conventional wines in Australia. In *proceedings of the 5th International Academy of Wine Business Research Conference*. Auckland. <http://academyofwinebusiness.com/wp-content/uploads/2010/04/SirieixRemaud-Consumer-perceptions-of-eco-friendly-wines.pdf> (accessed March 2, 2014).
- Stern, P. C. 2000. New environmental theories: toward a coherent theory of environmentally significant behavior. *Journal of Social Issues* 56 (3): 407-424.
- Stern, P. C., & T. Dietz. 1994. The value basis of environmental concern. *Journal of Social Issues*, 50 (3): 65-84.
- Stern, P. C., T. Dietz., T. Abel, G. A. Guagnano, & L. Kalof. 1999. A value-belief-norm theory of support for social movements: The case of environmentalism. *Human Ecology Review* 6 (2): 81-98.
- Stern, P. C., T. Dietz., G. A. Guagnano. 1998. A brief inventory of values. *Educational and Psychological Measurement* 58 (6): 984-1001.

- Stern, P. C., T. Dietz., & L. Kalof. 1993. Value orientations, gender, and environmental concern. *Environment and behavior*, 25 (5): 322-348.
- Teng, Y., K. Wu, & H. Liu. 2013. Integrating altruism and the theory of planned behavior to predict patronage intention of a green hotel. *Journal of Hospitality and Tourism Research*. DOI: 10.1177/1096348012471383.
- Thach, L. 2011. Wine for breakfast: Exploring wine occasions for Gen Y. In *proceedings of 6th Academy of Wine Business International Conference*, Bordeaux Management School. <http://academyofwinebusiness.com/wp-content/uploads/2011/09/3-AWBR2011-Thach1.pdf> (accessed April 2, 2014).
- Thompson, S.C.G., & M.A. Burton. 1994. Ecocentric and anthropocentric attitude toward the environment. *Journal of Environmental Psychology* 14 (2): 149-157.
- Tregear, A., J. B. Dent, & M. J. McGregor. 1994. The demand for organically grown produce. *British Food Journal* 96 (4): 21-25.
- United States Department of Agriculture (USDA). 2012. *Welcome to the National Organic Program*. <http://www.ams.usda.gov/AMSV1.0/nop> (accessed March 2, 2014).
- Ureña, F., R. Bernabéu, & M. Olmeda. 2008. Women, men and organic food: differences in their attitudes and willingness to pay. A Spanish case study. *International Journal of consumer Studies* 32 (1): 18-26.
- Veblen, T. 1953. *The Theory of Leisure Class*. New York: New American Library.
- Vermeir, I., & W. Verbeke. 2006. Sustainable food consumption: Exploring the consumer 'attitude-behavioral intention' Gap. *Journal of Agricultural and Environmental Ethics*, 19 (2): 169-194.

- Williams, R. M. Jr. 1979. Change and stability in values and value systems: A sociological perspective. In M. Rokeach (ed.), *Understanding human values*, New York: The Free Press.
- Williams, P. R. D., & J.K. Hammit. 2001. Perceived risks of conventional and organic produce: Pesticides, pathogens, and natural toxins. *Risk Analysis* 21 (2): 319-330.
- Wilson, M. 2007, September 30. Going for the green. *Chain Store Age*.
<http://chainstoreage.com/article/going-green> (accessed March 07, 2014).
- Yiridoe, E. K., S. Bonti-Ankomah, & R. C. Martin. 2005. Comparison of consumer perceptions and preference toward organic versus conventionally produced foods: A review and update of the literature. *Renewable Agriculture and Food Systems* 20 (4): 193-205.
- Young, W., K. Hwang, S. McDonald, & C. J. Oates. 2010. Sustainable consumption: green consumer behavior when purchasing products. *Sustainable Development* 18 (1): 20-31.
- Zahavi, A. 1975. Mate selection: Selection for a handicap. *Journal of Theoretical Biology* 53 (1): 205–214.
- Zeithaml, V. A., L. L. Berry, & A. Parasuraman. 1996. The behavioral consequences of service quality. *Journal of Marketing* 60 (2): 31–46.