



Red, white or green?

Consumer perceptions and engagement with sustainable wines in Canada

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Acknowledgements

- Maria Best
- Shannon Ruzgys
- Dr Belinda Kemp

Why the interest in sustainable wines?



Wine not inherently sustainable (Baiano, 2021):

- Water demand
- Vineyard chemicals (fertilizers, pesticides, fungicides): reduce biodiversity, cause soil infertility, pollute waterways
- Energy demands
- Greenhouse gas emissions
 - COP28
 - vineyard (17%); winemaking (81%) - glass bottle production & transport significant contributor
- Waste
- Social injustices

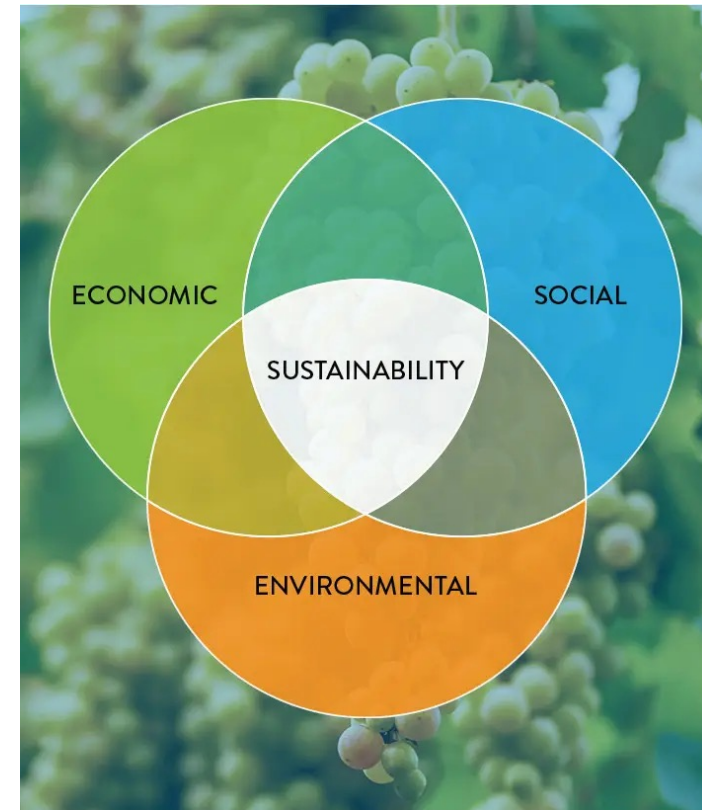
Consumers increasingly valuing sustainability in purchase decisions for other products

- especially younger demographics

Industry (largely) wanting to respond to these challenges & (assumed) consumer demand

What is a sustainable wine ?

- Definitions varied
- “To be sustainable, agriculture must meet the needs of present and future generations, while ensuring profitability, environmental health, and social and economic equity” (FAO)
- Many local and international initiatives in recent years to develop certification programs, resources & common framework & standards
 - OIV
 - Sustainable Wine Roundtable
 - Sustainable Winegrowing Ontario, Sustainable Winegrowing British Columbia
- What is consumer perception/knowledge base?



<https://sustainablewinegrowingbc.ca>

Research questions



For Canadian wine consumers:

1. What are current perceptions and understanding of sustainable wines?
 - Is sustainability important as a purchase motivator?
 - What are the characteristics of highly involved consumers?
2. How engaged with sustainable wines are consumers currently?
3. What factors predicts engagement?
4. What is the potential for ‘moving the dial’ on sales?

Recruitment & study design



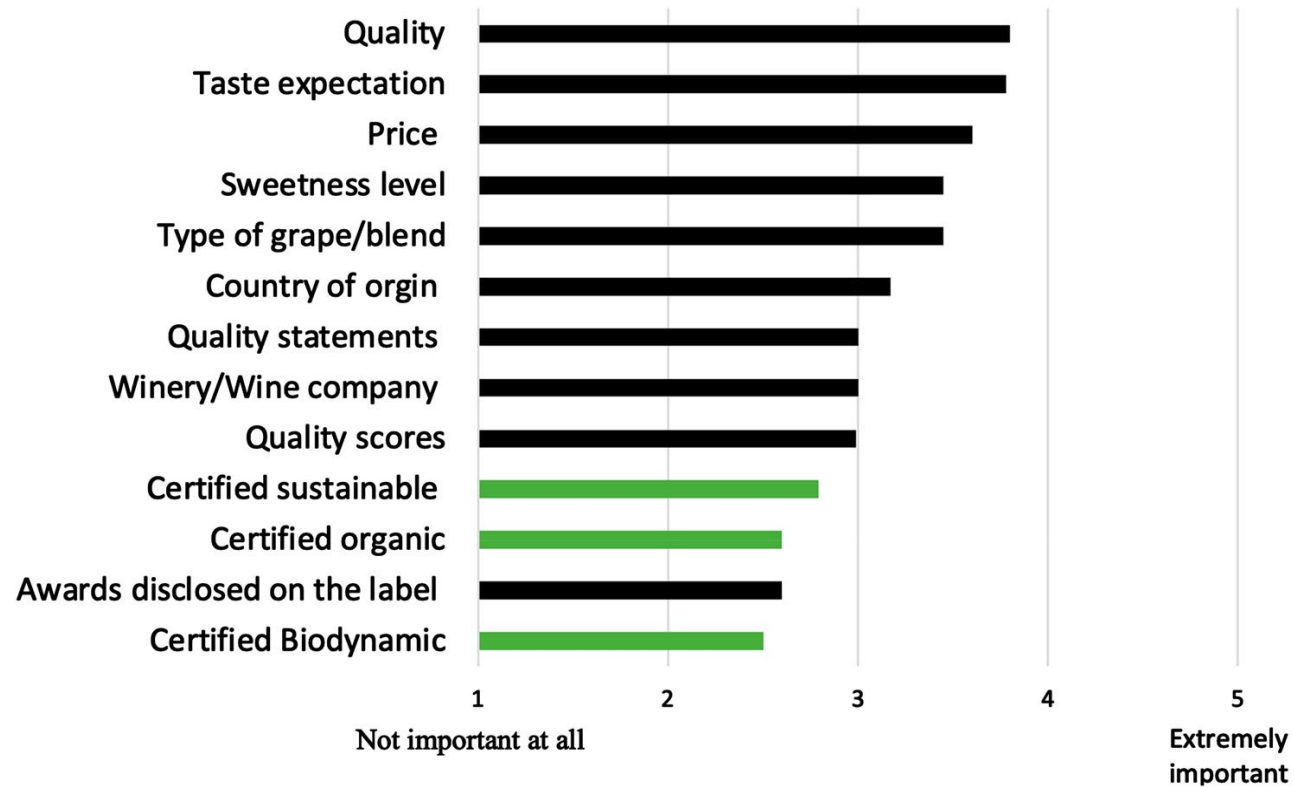
- 2022 online survey (Qualtrics)
- 817 Canadian wine consumers (Dynata)
- Sample
 - 725 responses retained
 - representative for gender, household income & province
 - slightly more highly educated and older (M = 47 yrs.) than census data
- Mixed methods

What are current perceptions and understanding of sustainable wines?



Methods:

- Rated level of importance placed on purchase cues (5-point importance scale)
 - Cues derived from Sáenz-Navajas et al. (2013), Pickering et al. (2022), plus additional sustainability cues
- Open response question: “What is your understanding of what a sustainable wine means?”
 - Inductive coding (NVivo) to derive codebook & identify key themes & concepts
- Check-all-that-apply question: “In my opinion sustainable wine_____”.
 - 24 response options adapted from Capitello & Sirieix (2019) and Remaud & Sirieix (2012) (including price, quality, health, ingredient, & environmental dimensions)
- General and sustainable wine involvement determined
 - Averaged scores for self-reported knowledge, interest, & purchase frequency (Pickering & Best, 2023)



Average importance ratings for factors influencing wine purchase decisions (n = 725)

1 = not important at all, 2 = somewhat important, 3 = important, 4 = very important, 5 = extremely important

	Requirements	Example	Count	% Of responses	% Of responders
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No understanding Sustainable production	Response indicated explicitly they could not answer the question	'I have no idea'	160	16	22
	Sustainably grown; sustainable winery production; sustainable technology used; made sustainably	'Made in sustainable way'	148	15	21
Reduce, renew, and recycle	Lowering carbon footprint; reducing use of materials (water, energy, chemicals, pesticides); managing materials (water, energy, waste); recycling used materials (packaging; water); using renewable resources (vineyards; products); replenishing materials; reducing environmental impacts	'Sustainable wine is a bottle that could be recycled and reused again'	125	13	18
Quality	Good quality; high quality; made with quality; reliable	'Good quality wine'	45	5	6
Social	Ethical; socially responsible operation; treats workers fairly	'Being made in an ethical way'	44	5	6
Ingredients	Ingredients are great; choice; environmental; minimal; local; natural; sustainable; non-harmful; grapes grown (organically, sustainably)	'Natural ingredients and minimal processing'	40	4	6
Flavour profile	Aged wine; good taste; smooth texture; taste and smell	'Wine with a good taste and a good amount of originality'	32	3	5
Economic	Economically feasible, lower supply chain impact, supply meets demand	'Economical produced in a sustainable way'	20	2	3
Longevity	Wine has long shelf life; wine lasts a certain amount of time; without end	'Wine that lasts'	20	2	3
Good		'Good wine'	17	2	2

Open response codebook for
'What does sustainable wine mean to you?' (n = 713)

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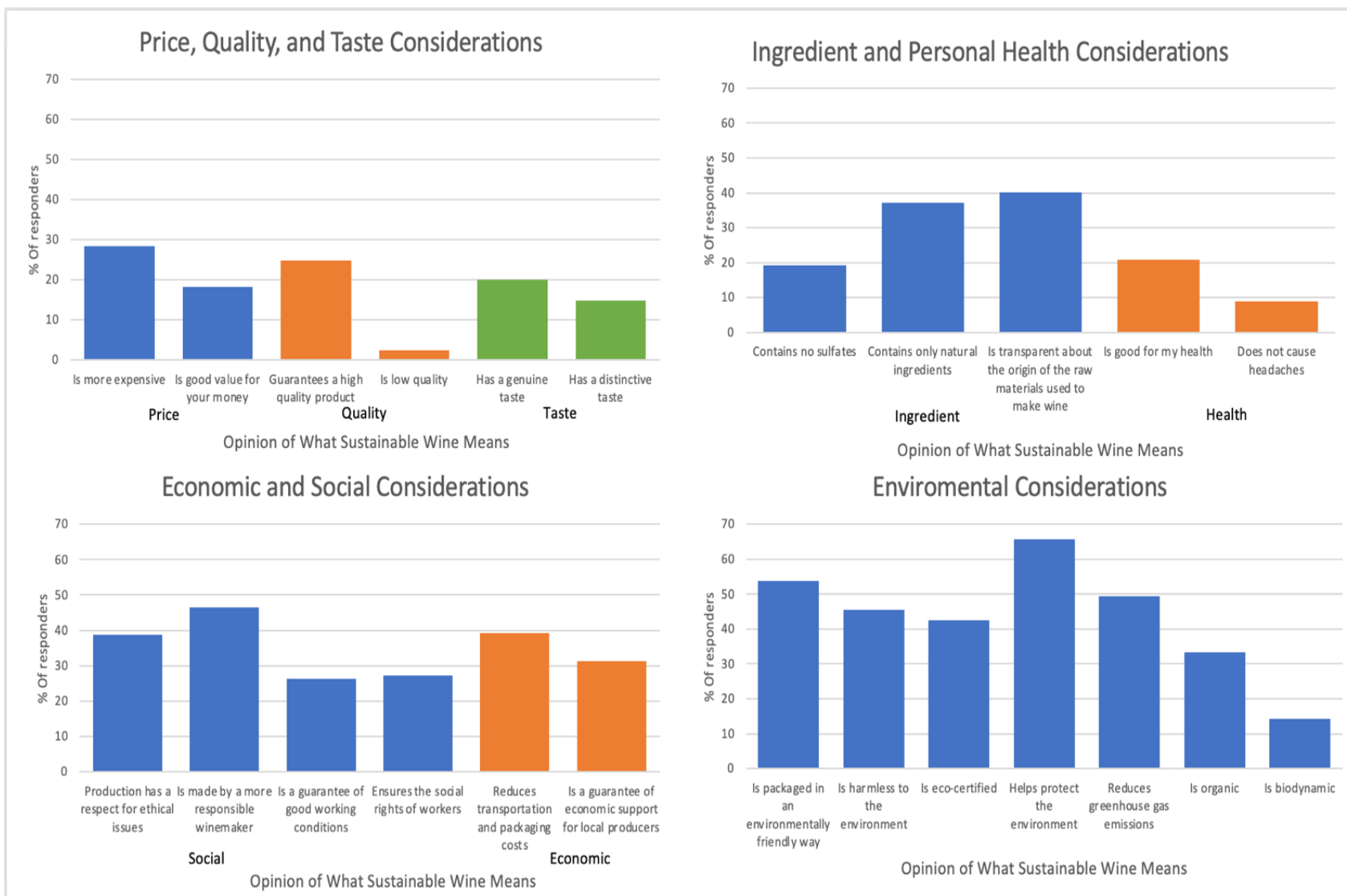
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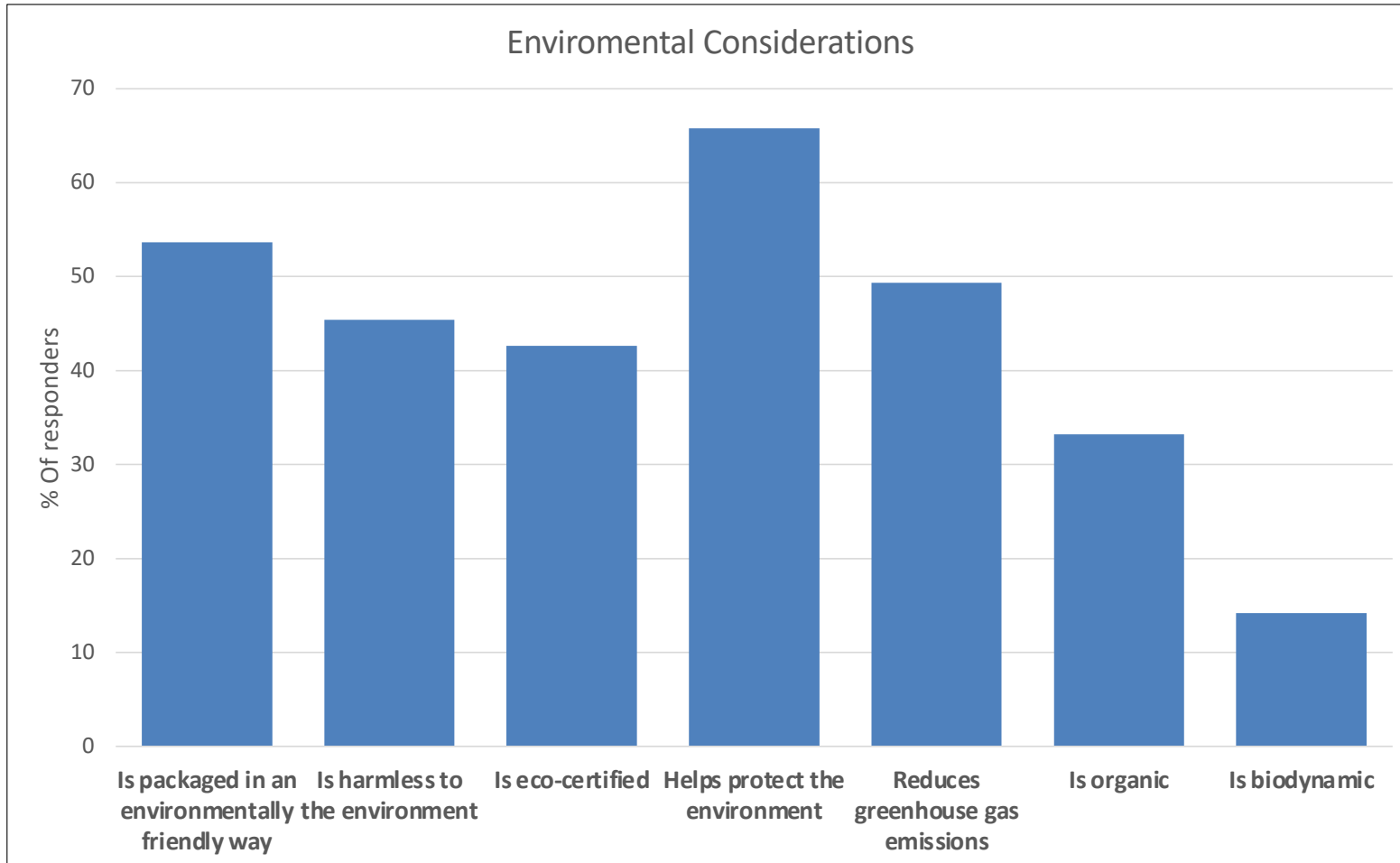
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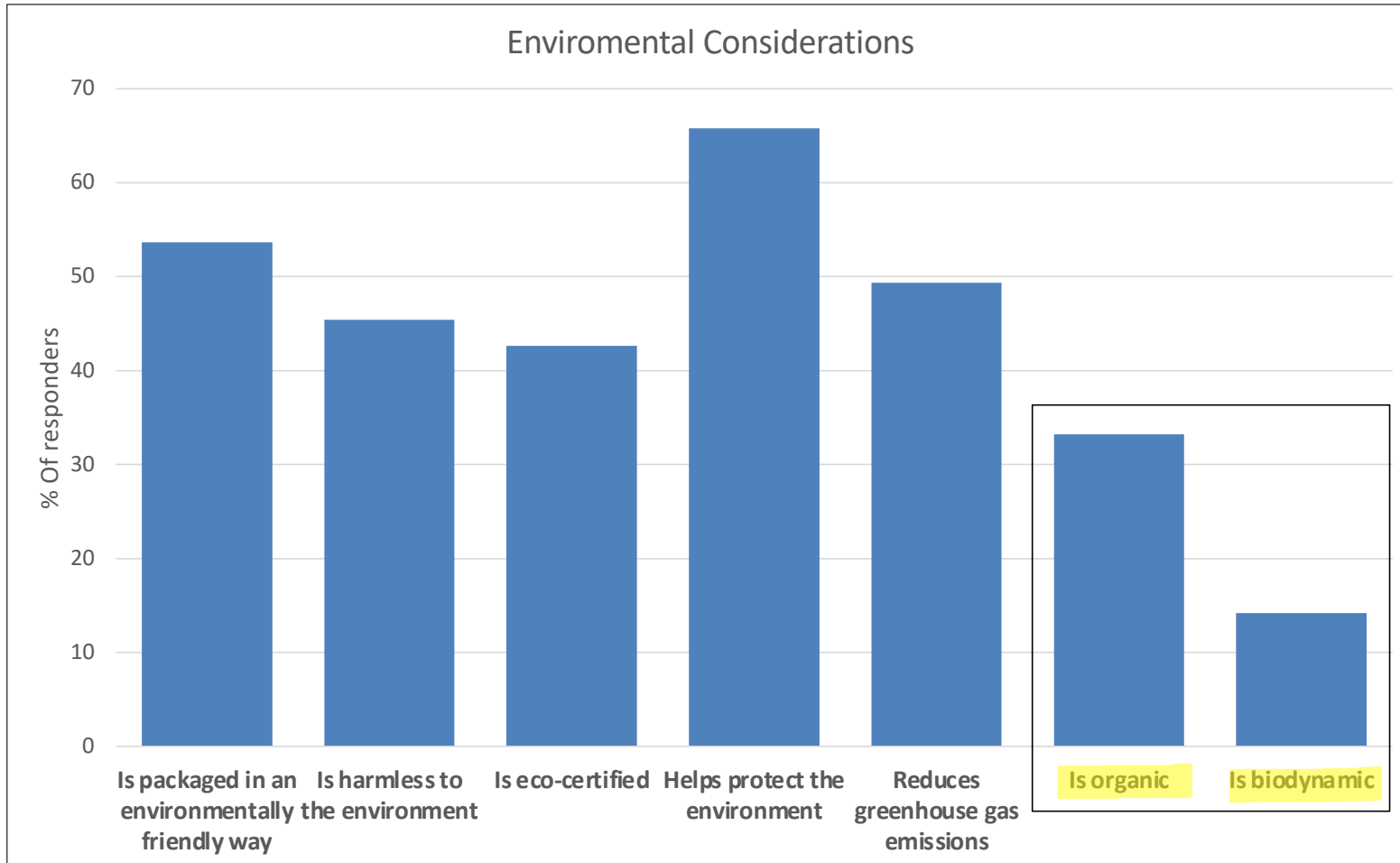
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“In my opinion
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(n=725)



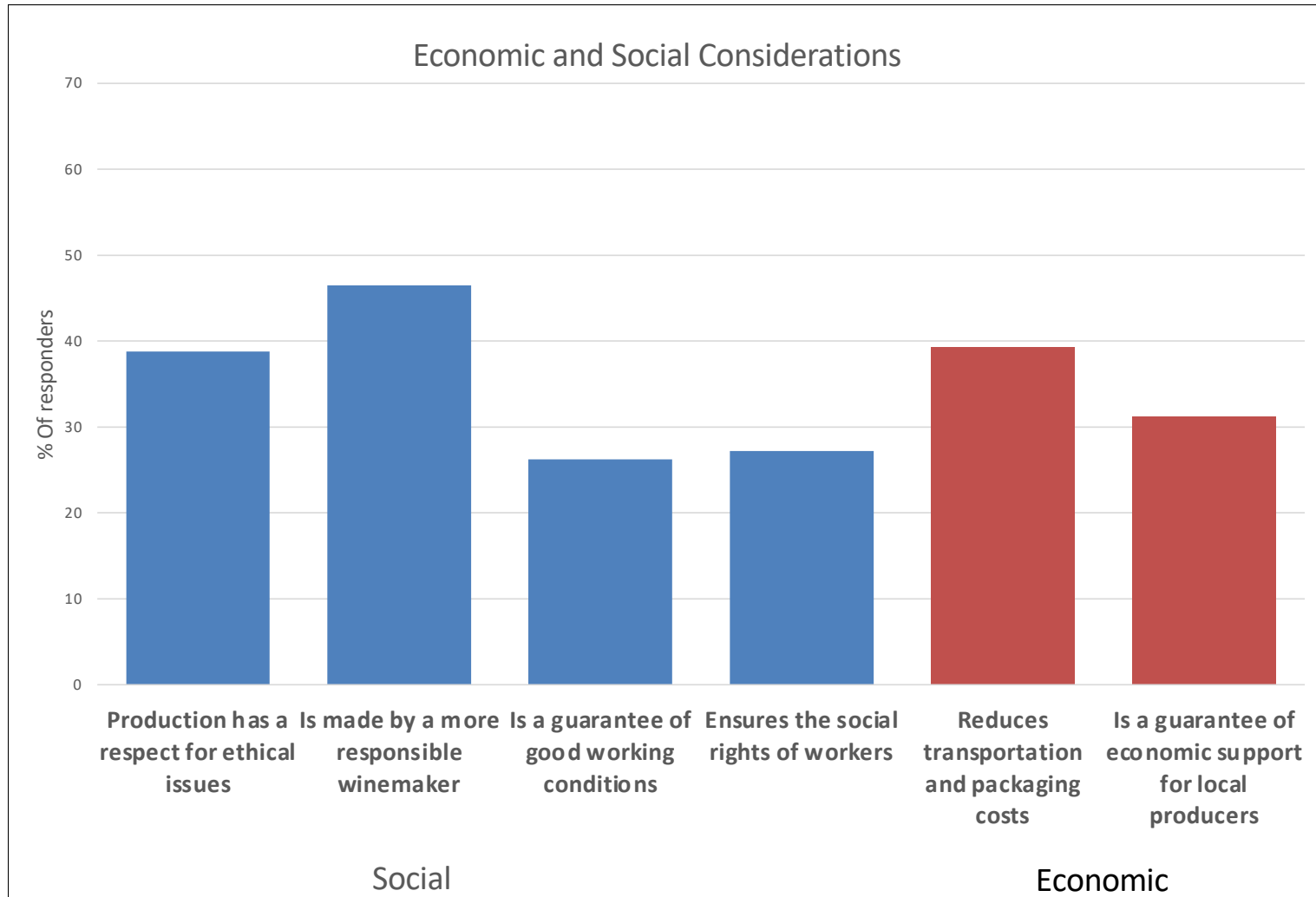
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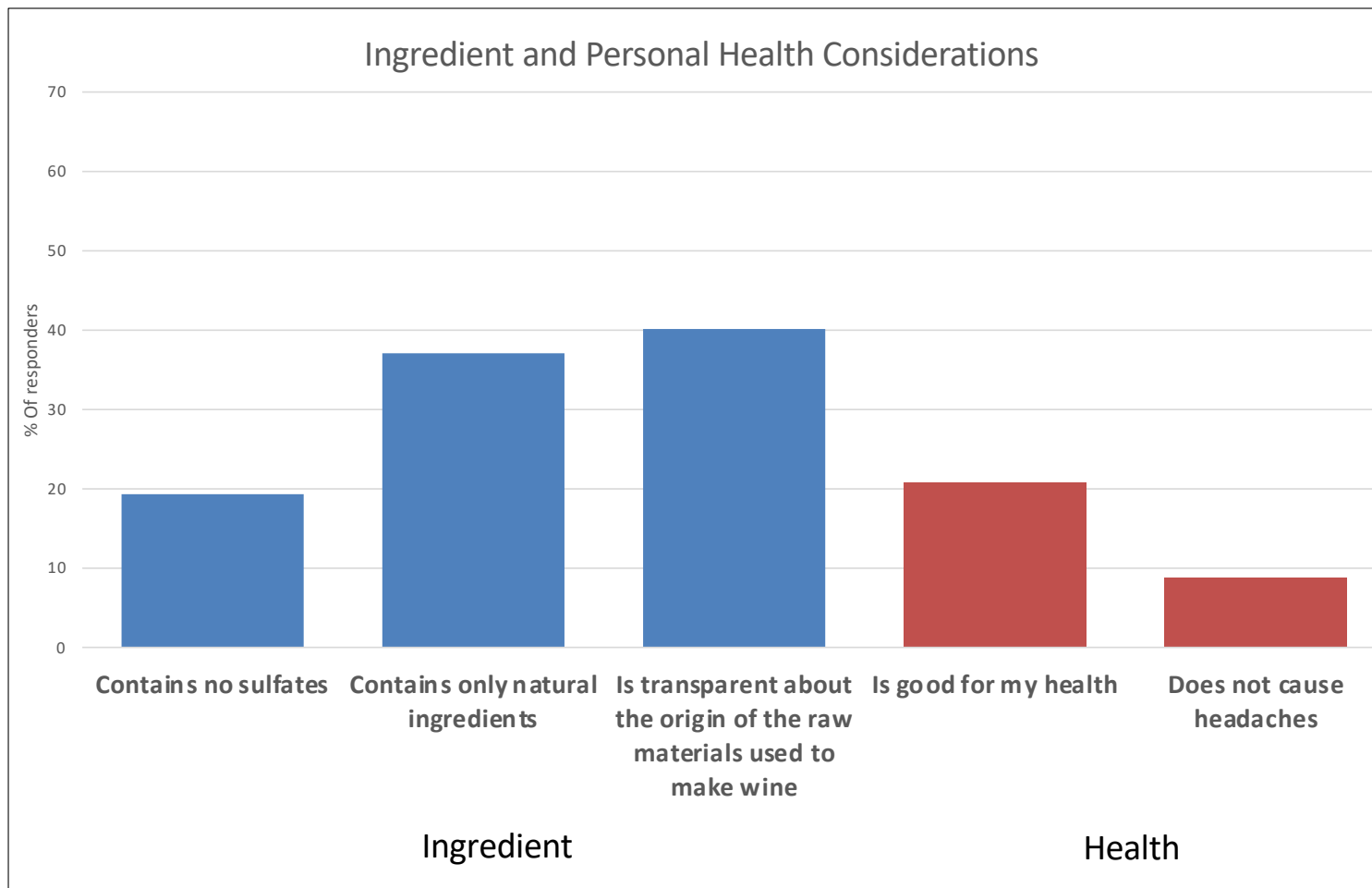
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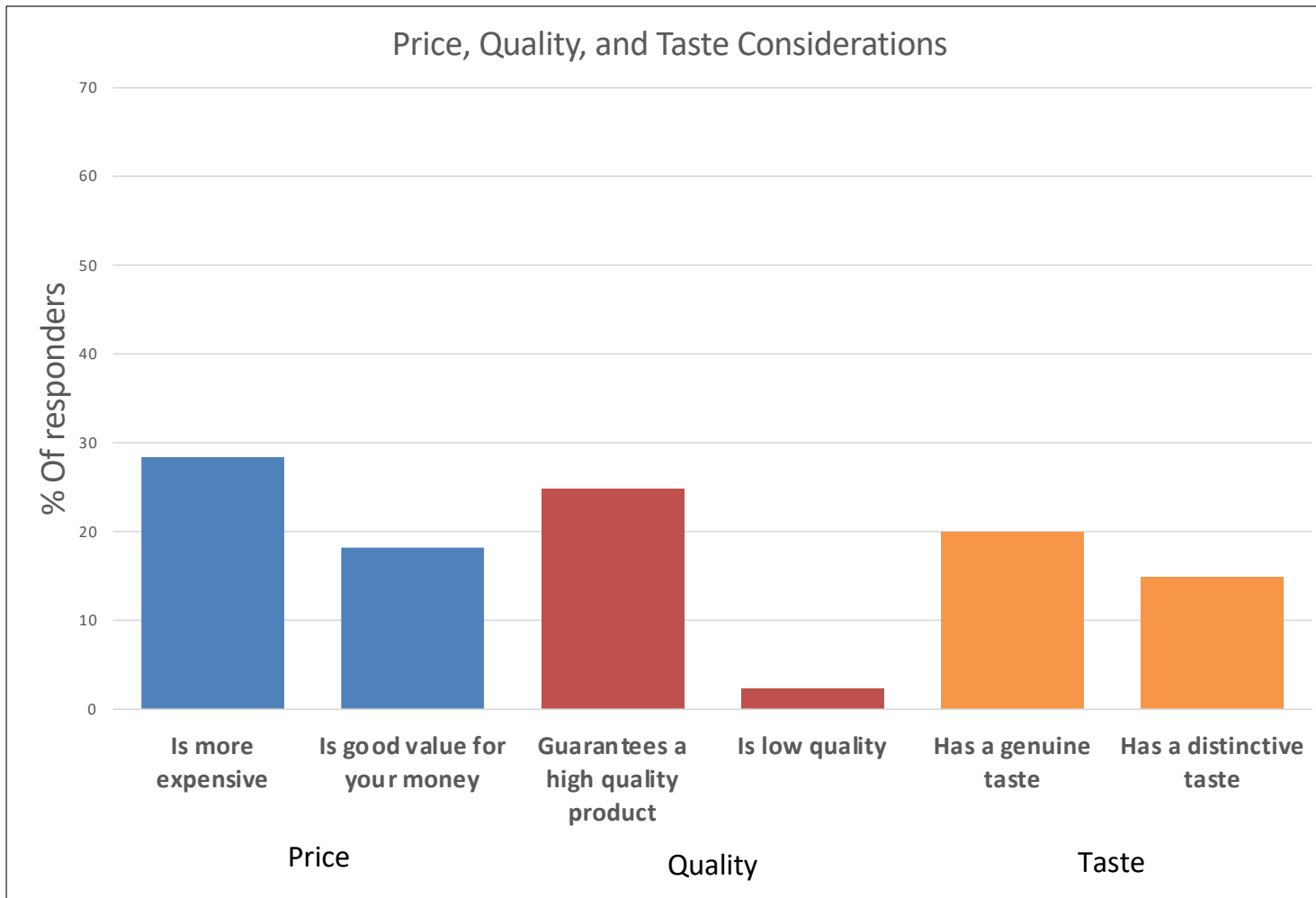
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Measure		Low involvement	High involvement	Significance
Demographics	Gender (%)			NS
	Male	48.3	53.3	-
	Female	51.7	46.7	-
	Province (%)			NS
	Atlantic Canada	8.0	7.3	-
	British Columbia	14.5	10.9	-
	Ontario	43.0	42.5	-
	Prairies	20.8	18.6	-
	Quebec	13.8	20.6	-
	Age (yrs.)	50.3 ± 0.67	41.5 ± 0.94	***
Wine behavior	Education (%)			*
	High school or less	20.1	11.7	**
	Some college	32.6	36.4	NS
	Bachelor's degree	36.6	36.4	NS
	Graduate degree	10.7	15.4	NS
	Household income (\$k)	89.2 ± 2.30	93.8 ± 3.25	NS
	General wine involvement	2.63 ± 0.02	3.28 ± 0.03	***
	Wine purchase frequency (%)			***
	At least weekly	18.8	55.5	***
	Once or twice a month	48.7	40.1	*
	Every 3 months	32.4	4.5	***
	\$ spent/bottle of wine (A)	17.5 ± 0.34	23.1 ± 0.47	***
	Sustainable wine purchase frequency (%)			***
	At least weekly	0.2	30.8	***
	Once or twice a month	7.6	51.4	***
	Every 3 months	16.2	9.7	*
	Never	21.8	0	***
	I do not know	54.2	8.1	***
	\$ spent/bottle of sustainable wine (B)	19.9 ± 0.60	24.8 ± 0.59	***
	Premium for sustainable (B/A *100)	112 ± 2.15	108 ± 1.99	NS

Characteristics of
consumers with low
(n = 478) and high
(n = 247) sustainable
wine involvement

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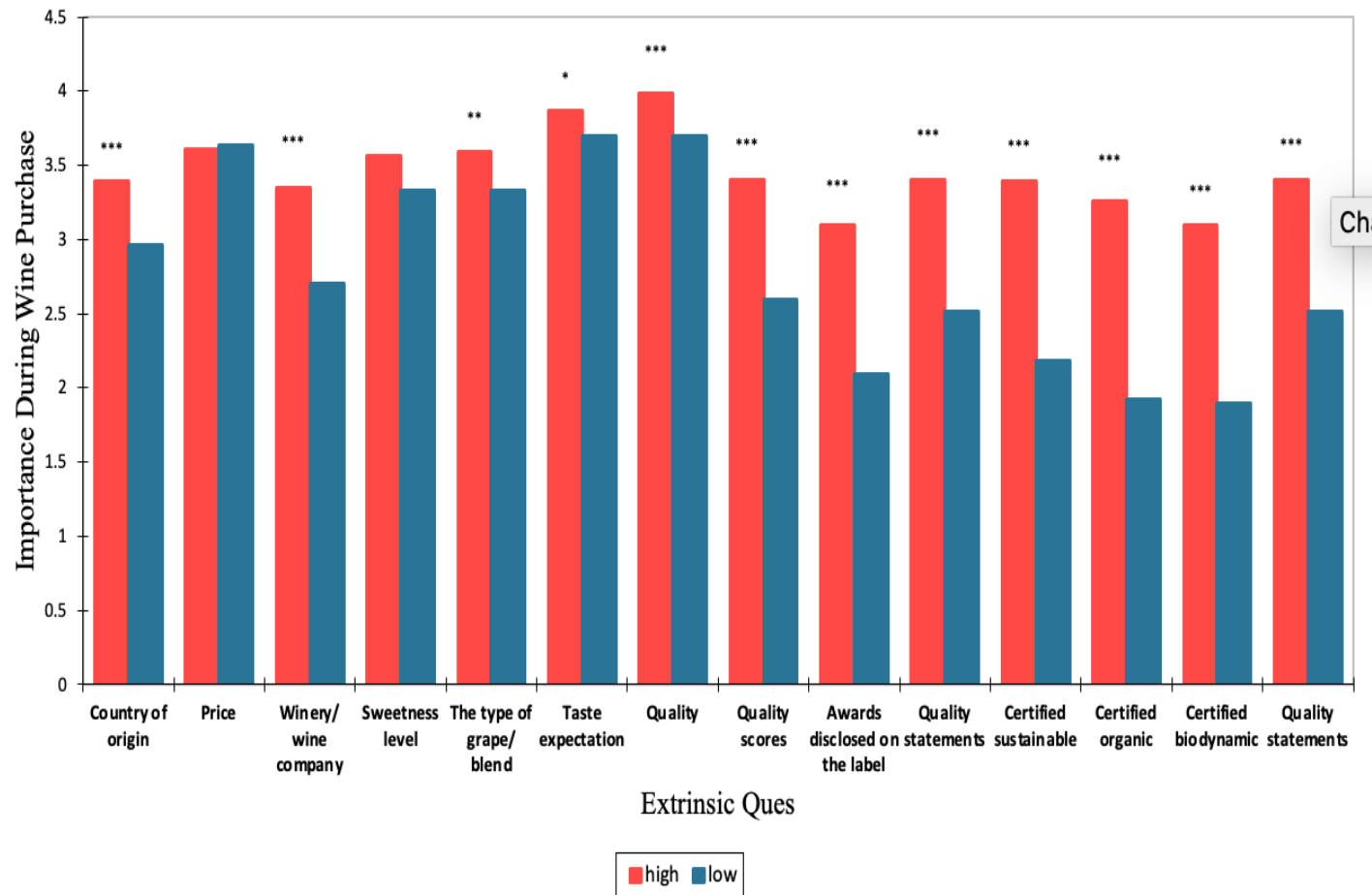
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Wine behavior	Education (%)			*
	High school or less	20.1	11.7	**
	Some college	32.6	36.4	NS
	Bachelor's degree	36.6	36.4	NS
	Graduate degree	10.7	15.4	NS
	Household income (\$k)	89.2 ± 2.30	93.8 ± 3.25	NS
	General wine involvement	2.63 ± 0.02	3.28 ± 0.03	***
	Wine purchase frequency (%)			***
	At least weekly	18.8	55.5	***
	Once or twice a month	48.7	40.1	*
	Every 3 months	32.4	4.5	***
	\$ spent/bottle of wine (A)	17.5 ± 0.34	23.1 ± 0.47	***
	Sustainable wine purchase frequency (%)			***
	At least weekly	0.2	30.8	***
	Once or twice a month	7.6	51.4	***
	Every 3 months	16.2	9.7	*
	Never	21.8	0	***
	I do not know	54.2	8.1	***
	\$ spent/bottle of sustainable wine (B)	19.9 ± 0.60	24.8 ± 0.59	***
	Premium for sustainable (B/A *100)	112 ± 2.15	108 ± 1.99	NS

Characteristics of
consumers with low
(n = 478) and high
(n = 247) sustainable
wine involvement



Importance placed on wine purchase cues vary with sustainable wine involvement

How engaged with sustainable wines are consumers currently?

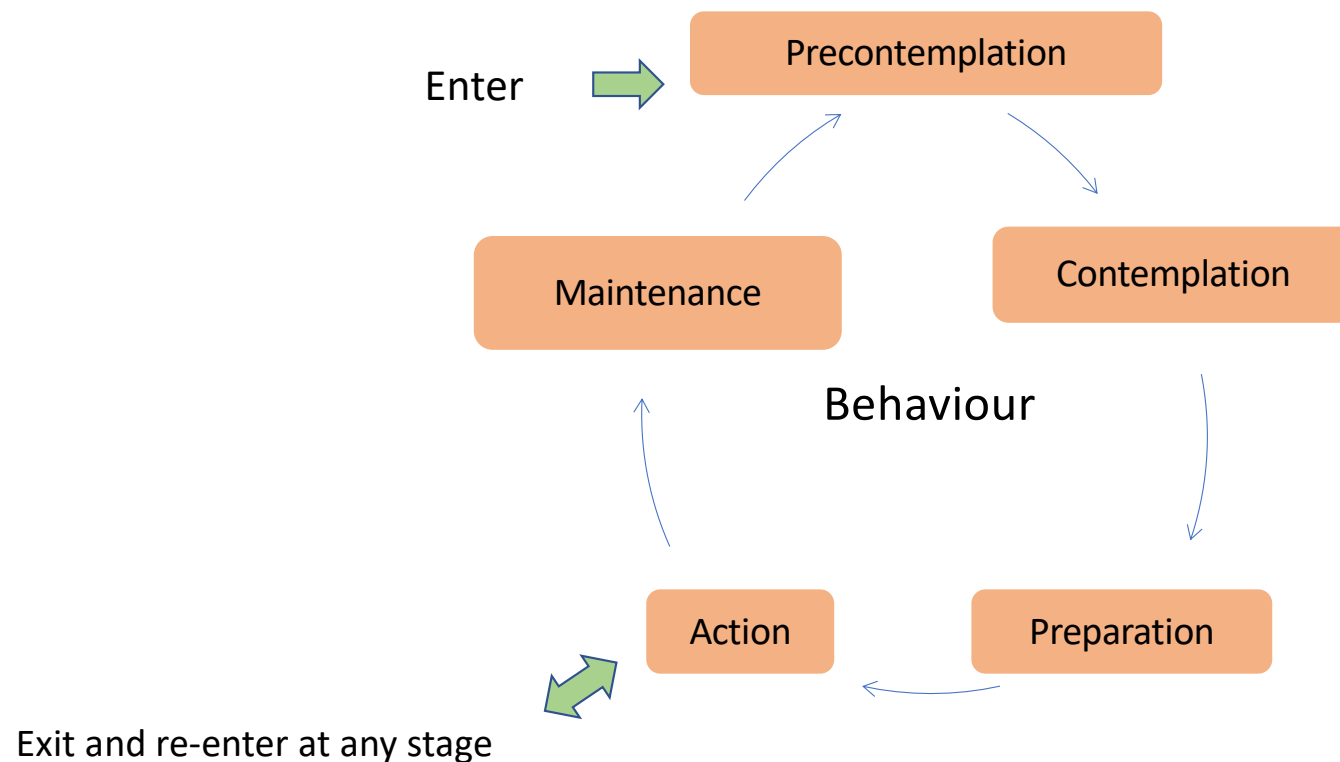


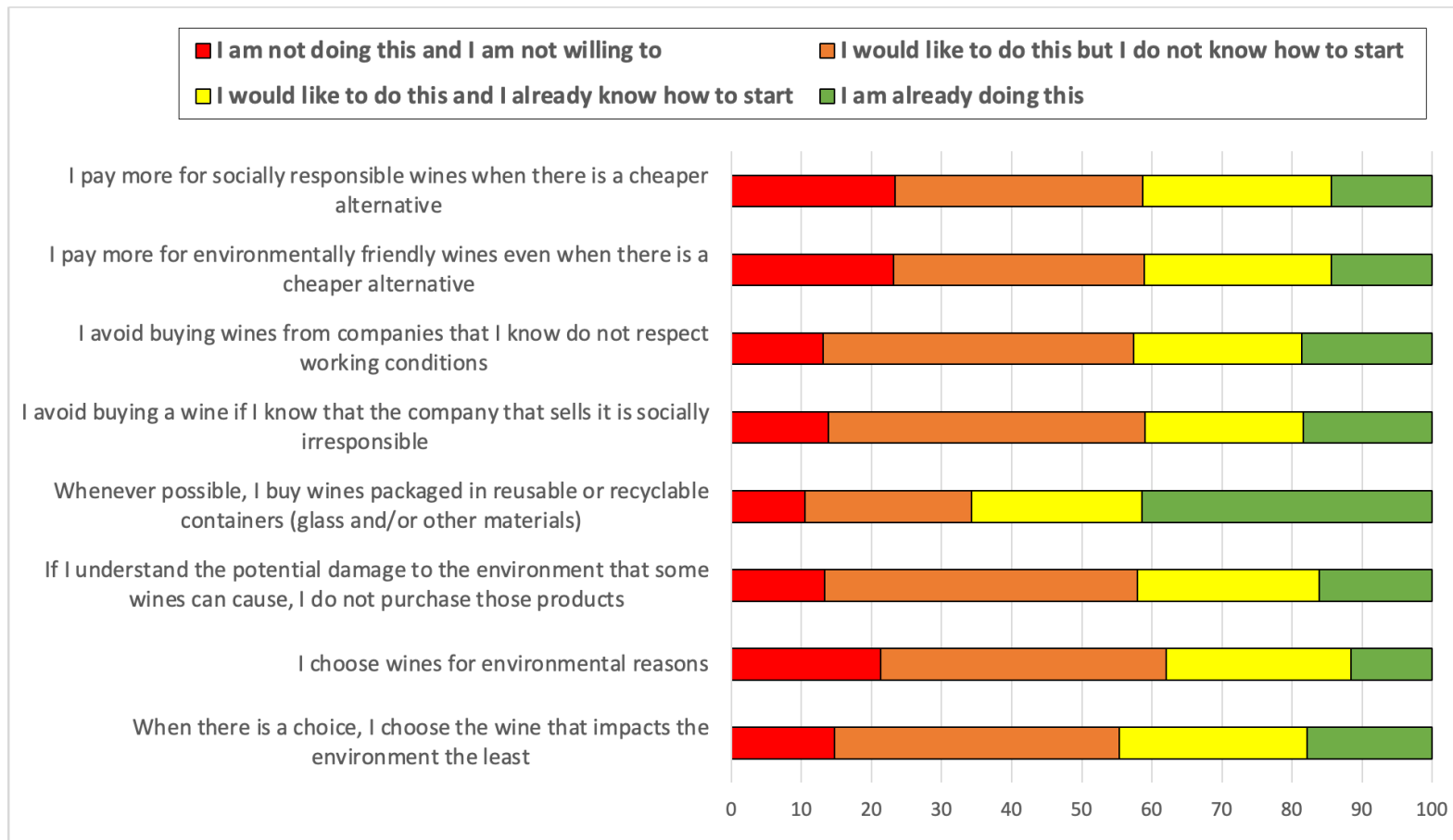
Methods:

- 8 sustainable wine behaviors presented representing social, economic & enviro aspects of sustainable wine (adapted from Sudbury-Riley & Kohlbacher, 2016)
 - e.g., *When there is a choice, I choose the wine that impacts the environment the least;*
I avoid buying wines from companies that I know do not respect working conditions;
I pay more for socially responsible wines when there is a cheaper alternative
- Response options (from the Transtheoretical model):
 - I am not doing this and I am not willing to* (precontemplation);
 - I would like to do this, but I do not know how* (contemplation);
 - I would like to do this, and I already know how to start* (preparation);
 - I am doing this already* (action)
- General wine involvement & importance of purchase cues determined (per earlier slide)

The Transtheoretical Model of Behaviour

(Prochaska & Velicer, 1997)





Current level of engagement with sustainable wine behaviours
 (% of consumers in each action stage)

What factors predicts engagement?



Method:

- Use demographic, behavioural, perceptual measures determined in earlier slides
- Initial analysis (point biserial correlation) showed no or little association between action stage (action v precontemplation) and gender, province, education, household income or the importance of price
- Other variables were correlated with action stage and were included in logistic regression analysis

Predictors of action stages for sustainable wine behaviours (n = 724)

(Multinomial regressions; reference category = change stages (contemplation & preparation))

A = action, PC = precontemplation, B = standardised regression coefficient, OR = odds ratio

Behaviour	R ² (Nagelkerke)	Action stage	Wine Involvement		Importance of taste expectation		Importance of quality		Importance of sustainability cues		Age	
			B	OR	B	OR	B	OR	B	OR	B	OR
When there is a choice, I choose the wine that impacts the environment the least	0.31	A	0.20**	1.68	ns		0.16*	1.35	0.38***	1.83	0.13*	1.02
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		PC	ns		ns		0.17*	1.38	-0.74***	0.31	ns	
Whenever possible, I buy wines packaged in reusable or recyclable containers (glass and/or other materials)	0.19	A	ns		0.17**	1.41	0.15**	1.33	ns		0.25***	1.03
		PC	ns		0.19*	1.46	ns		-0.66***	0.35	ns	
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I pay more for environmentally friendly wines even when there is a cheaper alternative	0.43	A	0.21**	1.73	ns		ns		0.41***	1.91	ns	
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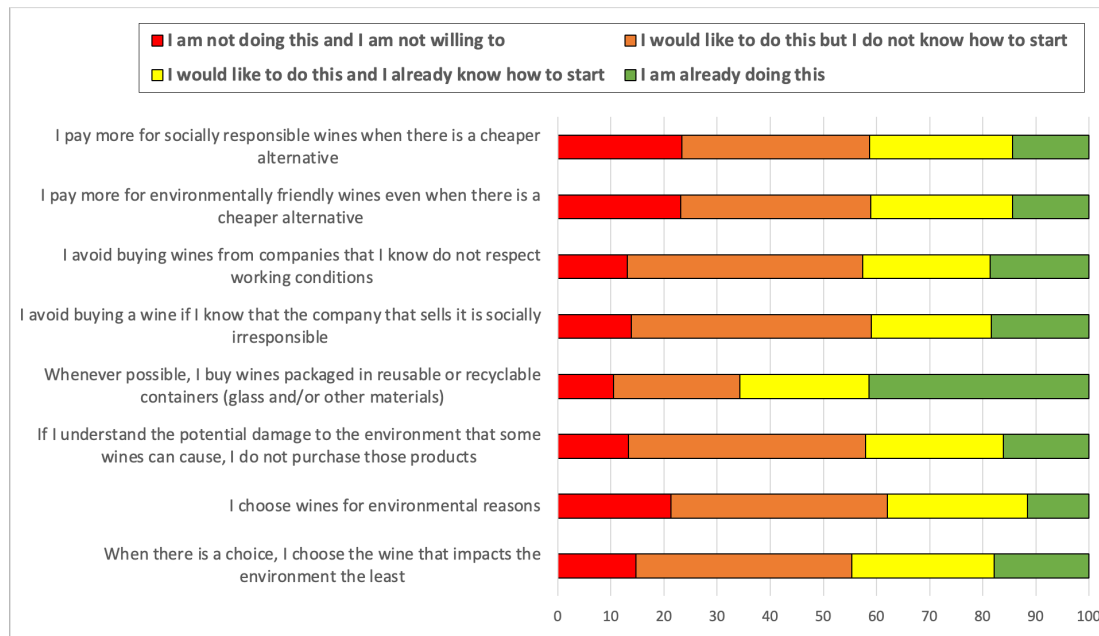
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What is the potential for ‘moving the dial’ on sales?



- × Sustainability cues not of high importance relative to other purchase motivators
- ✓ Most consumers in a change stage
- ✓ Most consumers indicate they happy to pay more for more environmentally friendly and socially responsible wines
- ? Price sensitivity & premium unclear
- ✓ Most salient barriers are actionable
 - Knowledge

Summary and conclusions

- Sustainability cues significantly less important than others as purchase motivators
- The concept of sustainable wine less clear for consumers than for other agri-food products (Baiano, 2021)
 - Environmental dimensions of sustainability more salient for consumers than social or especially economic dimensions
 - 22% of responders indicated no or v limited understanding of sustainable wine
- Consumer most engaged with sustainable wine are better educated, more wine-involved generally, and spend significantly more per bottle
- Most consumers indicate they are in a change stage for engaging with sustainable wines, emphasizing the need for education
- Wine involvement and the importance of sustainability cues strongest and most consistent predictors of sustainable wine behaviors
 - Age & importance of taste expectation & perceived quality predictive for some behaviors

Implications and recommendations



- Clear, integrated, consistent communication of sustainability characteristics and initiatives are needed
 - Certification alone likely will help but not be sufficient
 - Market sensitive to greenwashing
 - Marketing campaigns & promotions materials should stress quality (not all data shown)
- Global standards/framework (e.g., SWR) may help
 - Integration of Canadian standards/framework (& logos) may help
- Now have baseline data for consumer perceptions and engagement across Canada
 - Useful for monitoring changes in engagement/success of marketing initiatives and other interventions
- TTM useful in understanding nuances in wine consumer behavior

Further research

- ? \$
- NSERC-SSHRC Alliance grant application (“Net-zero wine”)
 - “Consumer perceptions and optimized promotion of low carbon wine”
 - Partnering with Ontario Craft Wineries and Stratus Vineyards

Phase I: consumer focus groups for more comprehensive understanding of attitudes and willingness to pay/buy, and barriers

Phase II: optimized messaging and frames for promoting low carbon/sustainable wine



An Exploration of Consumer Perceptions of Sustainable Wine

Gary J. Pickering and Maria Best

Journal of Wine Research 34.3 (2023): 232-246



Consumer engagement with sustainable wine: an application of the Transtheoretical Model

Gary J. Pickering

Food Research International 174 (2023): 113555