Demographic Differences in United States Consumers' Perceptions and Willingness to Pay for Sustainable Environmental Practices in the Floral Industry

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KEYWORDS. composting, fairtrade, floral design, floriculture, locally sourced, organic

ABSTRACT. Consumers have become increasingly concerned about the environmental standards of industries from which they purchase products. Because consumers' environmental concerns are increasingly becoming part of their purchasing decisions, industries have begun to restructure their business model to one that is more environmentally sustainable. Studies have indicated consumers' actions and motivations for purchasing sustainable products vary based on consumer demographics. The main purpose of this study was to compare the differences in consumers' perceptions and willingness to pay as they relate to retail floral providers' sustainable and environmentally sound practices based on demographic traits. A total of 2172 people responded to an online survey. The sample used in this study was a random selection of individuals 18 years of age or older living in the United States. Survey responses were collected from 21 Dec 2022 to 27 Jan 2023. Data were analyzed using analyses of variance and post hoc tests as well as descriptive and frequency statistics. Results indicated there was a difference in the way respondents answered the survey questions based on demographics. Respondents 34 years of age or younger with college experience indicated the most willingness to make purchases and pay premiums from floral providers that incorporate sustainable attributes into their business model. Males indicated a stronger willingness to shop at a floral provider based on several of the environmental statements when compared with other genders. The results provide evidence of the value of the integration of sustainability practices into the business model of floral providers to make it more competitive.

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their purchasing decisions, industries have begun to restructure their business model to one that is more environmentally sustainable (Ouvrard et al. 2020).

Because consumers have become increasingly aware of health risks and environmental degradation related to the overuse of pesticides, there has been an increase in "Organic," "Sustainable," and "Fair Trade" branded horticulture/ floriculture products being sold in the United States and around the world (Lernoud and Willer 2017; Toumi et al. 2016). Branding has been shown to increase profit margins and help stimulate demand in a saturated market (Collart et al. 2010). Certifications of branded products can help ensure growing conditions meet or exceed legal government mandates and industry norms as they relate to environmental sustainability (Lernoud and Willer 2017; Raynolds 2012).

Studies have indicated consumers' actions and motivations for purchasing sustainable products vary based on consumer demographics. For instance, during a study conducted by the Society of American Florists, it was found that 65% of transactions for fresh cut flowers are made by women (Society of American Florists 2016). Another study found that consumers who are typically willing to pay more for environmentally friendly products are female, married, and have at least one child living at home (Laroche et al. 2001). Additionally, it has been found consumers 36 to 50 years of age are the most likely group to proactively purchase products from environmentally friendly companies (Patel et al. 2017). However, those 30 years of age or younger are more willing to spend their income on various products and are more open to trying new products (Eghbal 2014).

Research has found that although consumers with higher annual household incomes are able to spend extra on green goods, because of a lack of trust in quality, they may not purchase sustainable goods (Nguyen et al. 2019). Research has shown that income has a more significant influence on green purchase intentions and green purchase behaviors in developing and emerging countries (Wijekoon and Sabri 2021). This could be because the percentage of disposable income spent on green products is higher in developing and emerging countries, making eco-friendly products more of a premium product than in advanced economies (Wijekoon and Sabri 2021). The same study also found that income was not the main factor when determining green purchase intentions and green purchase behaviors (Wijekoon and Sabri 2021).

During an analysis of European consumers' purchasing preferences for flowers and plants, increasing evidence showed that consumers value a product's origin and prefer locally grown and seasonal flowers (Gabellini and Scaramuzzi 2022). It was also noted that sustainability and transparency play an increasingly important role in consumer choice, especially among young, educated consumers (Gabellini and Scaramuzzi 2022). Past research has found that a consumer's race was not related to actions such as using green products and recyclable bags and separating trash for recycling (Fisher et al. 2012).

A recent study that investigated United States consumers' perceptions of sustainable environmental attributes incorporated into business models of floral providers found that a majority of those surveyed were willing to pay up to 10% more for floral designs made from a more sustainable floral provider (Etheredge et al. 2023). The same study also found that of the environmentally sustainable attributes that respondents were asked about, the use of locally sourced flowers was found to be the most influential change that a floral provider could make to increasing a consumer's willingness to purchase. Respondents also indicate a strong willingness to pay a premium to retail floral providers that dispose of floral waste through composting (Etheredge et al. 2023). Research has indicated that the premium a consumer is willing to pay varies depending on the specific environmental attribute (Khachatryan et al. 2014). Additionally, a past study that investigated consumers environmental practices based on the types of plant purchases found that consumers who purchase predominantly herbaceous plants, flowering annual plants, perennial plants, indoor flowering plants, and herbs or vegetable transplants were more environmentally friendly when compared with consumers who purchase other types of plants (Behe et al. 2010).

A recent study that investigated retail flower shop owners' perceptions of environmentalism and their willingness to compost fresh cut floral waste produced at their retail floral establishments found that most of these owners who participated in the study had a high level of environmental concern and were willing to collaborate with local community programs, such as community gardens and Master Gardeners, if it meant the waste produced at their shops could be composted (Etheredge and Waliczek 2020).

The main reasons why consumers purchase sustainable products are plant/ species, soil, and water protection, as well as conservation of resources, greenhouse gas emission reduction, and to encourage recyclability (Isaak and Lentz 2020). A study found that both luxury and utilitarian product perceptions were enhanced by claims emphasizing global environmental benefits (Steinhart et al. 2013). Environmental assertions may also improve consumers' perceptions of luxury items, thus justifying their indulgence in such products (Steinhart et al. 2013).

The main purpose of this study was to compare the differences in consumer perceptions and willingness to pay as they relate to retail floral providers' sustainable and environmentally friendly practices based on demographic traits.

Materials and methods

SAMPLE. Institutional review board exemption approval was obtained for this research (IRB Protocol 21–211; May 2021). Respondents were drawn from an online survey that was created using Qualtrics (Provo, UT, USA) and posted for 5 weeks by the sponsors and cosponsors of the study on their social media platforms and spread through post sharing between 21 Dec 2022 to 27 Jan 2023. To gain a more robust sample, the researchers also contracted Momentive Inc. (San Mateo, CA, USA), which maintains a panel of more than 50 million people globally. The researchers specified within the survey consent form/summary that individuals who were targeted for the study needed to be at least 18 years old and reside within the United States. Control mechanisms in place by the contracted provider eliminated duplicate responses.

INSTRUMENTATION. The survey consisted of 31 questions within four different sections and was assembled using tested reliable and valid surveys from past research that explored consumers' preferences and purchasing habits for floral products and views toward environmental certifications and awards (Huang and Yeh 2009; Lee et al. 2019; Short et al. 2017; Yue and Behe 2008). An initial search for test instruments measuring consumers perceptions of environmental sustainability incorporated in business models was performed and sample questions from each instrument were selected and adapted to fit the topic of this study. After questions were selected and adapted to fit the area of environmental sustainability for this study, the questionnaire was reviewed by the panel of experts. The expert panel consisted of eight individuals working within the educational, wholesale, and retail sectors of the floriculture industry. The expert panel was selected based on their experience in the floriculture industry and their willingness to participate on the panel. Then, the questionnaire was pilot-tested to identify problems with the instructions of the questionnaire and specific questions within the survey.

The first section of the survey investigated which sustainable attributes consumers considered to be the most important based on how much more they were willing to pay for varying sustainable business attributes. This section included 14 questions related to respondents' perceptions of sustainable attributes and their willingness to pay a premium for products from floral providers who was more environmentally sustainable than for those who were not. Respondents answered questions using a 5-point Likert scale (Likert 1932), multiple-choice questions, and ranking questions. Likert answers included "strongly disagree," "disagree," "neither agree nor disagree," "agree," and "strongly agree." Examples of questions included, "I think it is the environmentally right choice to make purchases from retail floral providers based on their environmental practices," and "All other considerations held the same, I would be more willing to make purchases from retail floral providers that recycle their flower waste through composting than retail floral providers that dispose of floral waste in municipal landfills" (Lee et al. 2019). Multiple-choice questions asked respondents to answer questions from a given set of answers. Example of multiple-choice questions included, "Please indicate how much more, if any, you would be willing to pay for a flower arrangement made by a retail floral provider who recycles flower waste through composting rather than disposing of floral waste in a municipal landfill." Examples of multiple-choice answers included "0%," "5%," "10%," "15%," "20%," and "25% or more."

The second section of the survey was modified from a tested, reliable, and valid instrument used in past research to determine consumers' perceptions of hotels that received green awards and certifications (Lee et al. 2019). The wording of questions was altered to pertain to the retail floral industry. This section consisted of three questions including two Likert-type questions and one multiple-choice question. Likert-type (Likert 1932) questions were answered using the "strongly disagree," "disagree," "neither agree nor disagree," "agree," and "strongly agree" scale. The multiple-choice scale included percentage values from which consumers chose a relevant assessment. Examples of questions included, "If an environmentally friendly certification existed for retail floral providers, then I would be more willing to make purchases from a certified environmentally-friendly retail floral

provider than from a retail floral provider not certified" and "Please indicate how much more, if any, you would be willing to pay for flowers and floral designs from an environmentally friendlycertified retail floral provider if such a certification existed."

The third section of the survey consisted of five questions and collected information regarding consumers' cut flower shopping habits. Respondents were asked to identify the frequency at which they purchase flowers from a retail flower shop and the way they most often make purchases from a retail flower shop: online, face-to-face, or over the phone. Questions were drawn from previously tested reliable and validated studies (Huang and Yeh 2009; Yue and Behe 2008).

The final section of the survey consisted of six demographic questions asking respondents to provide their age, education level, annual household income, gender, ethnicity, and state where they live. These were modeled on a reliable and validated instrument used in a previous similar study (Short et al. 2017).

DATA ANALYSIS. Data were analyzed using an analysis of variance (ANOVA) and post hoc [least significant difference (LSD)] tests, as well as descriptive and frequency statistics.

Results and discussion

SURVEY RESPONSE. A total of 2172 people responded to the survey. Overall, the demographics of the respondents aligned closely with the overall demographics of the United States (US Census Bureau 2023). However, the respondent population for this study did skew slightly more toward females (1229; 56.6%), Caucasians (1514; 69.7%), and college-educated people (1221; 56.2%) (Table 1). Overall response rates for certain demographic groups were low, thus eliminating generalizations of some demographic groups to the demographics population as a whole. The survey was successfully completed by respondents living within all 50 states and Washington D.C. (Table 1).

DEMOGRAPHIC DATA COMPARISON. ANOVAs were performed to determine if there were differences in responses to questions that were answered based on the gender, age, education level, ethnicity, and annual household income of respondents (Table 2). Significant differences were found in all five demographic groups. Post hoc, LSD, and Table 1. Frequency statistics during the study of demographic differences in United States consumers' perceptions and willingness to pay for sustainable environmental practices in the floral industry.

			2020 United States Census
Demographics	(n)	(%)	data (%)
Gender			
Female	1229	56.6	50.5
Male	921	42.4	49.5
Nonbinary/third gender	22	1.0	Not collected
Age, years			
18–24	207	9.5	9.0
25-34	350	16.1	13.7
35-44	367	16.9	12.9
45-54	407	18.7	12.4
55-64	436	20.1	13.0
65+	405	18.6	16.3
Race			
Black or African American	164	7.6	12.4
Asian or Asian American	196	9.0	5.9
Hispanic or Latino	185	8.5	18.7
Native American or Alaskan Native	27	1.2	1.1
Native Hawaiian or other Pacific Islander	9	0.4	0.4
White or Caucasian	1514	69.7	61.6
Another race	77	3.5	8.4
Education			
K-11	24	1.1	8.9
GED/high school diploma	313	14.4	27.9
Some college	503	23.2	14.9
College degree	784	36.1	23.5
Postgraduate degree	437	20.1	14.4
Associate/trade school degree	111	5.1	10.5
Annual household income			
Under \$15,000	162	7.5	9.4
Between \$15,000-\$29,999	252	11.6	12.7
Between \$30,000-\$49,999	354	16.3	15.6
Between \$50,000-\$74,999	454	20.9	16.5
Between \$75,000-\$99,999	335	15.4	12.2
Between \$100,000-\$149,999	360	16.6	15.3
Between \$150,000-\$199,999	128	5.9	8.0
\$200,000 or more	127	5.8	10.3

GED = general educational development.

frequency tests were used to determine where these significant differences occurred within each demographic category.

ANALYSIS BASED ON GENDER. Based on gender, ANOVAs found significant differences in the way respondents answered seven of the environmental health questions (Table 2). Male respondents agreed or strongly agreed more with four of the statements asking about different sustainable attributes that could be incorporated into a floral providers business model compared with females and nonbinary/third-gender participants. The statements in which males responded differently were as follows: "All other considerations held the same, I would be more willing to make purchases from a retail floral

provider who sells flowers sourced from local farmers and nurseries (farms and nurseries within 100 miles of the retail floral provider)"; "All other considerations held the same, I would be more willing to make purchases from a retail floral provider who uses sustainable, recycled, upcycled, and/or reusable materials instead of single-use products" (single-use plastic products can be defined as items that are used once or for a short period of time before being thrown away); "If an environmentally friendly certification existed for retail floral providers, then I would be more willing to make purchases from a certified environmentally friendly retail floral provider than from a retail floral provider not certified"; and "If an

Table 2. ANOVA and frequency statistics indicating significant differences in the way participants responded to survey questions pertaining to their views on sustainable attributes that could be included in business models of retail floral providers based on the respondent's gender.

	М	ale	Fer	nale		oinary/ gender				
Statement	(n)	(%)	(n)	(%)	(n)	(%)	df	SD	F	Р
							2	1.152	4.800	0.008*
Question: All other conside flowers sourced from loca										who sells
Choice 1: Strongly agree	231	25.1	332	27.0	4	18.2				
Choice 2: Agree	231	23.1	332	27.0	т	10.2				
Sholee 2. Agree	397	43.1	445	36.2	6	27.3				
Choice 3: Neither agree not			110	0012	U	27.10				
	182	19.8	218	17.7	7	31.8				
Choice 4: Disagree										
6	66	7.2	137	11.1	2	9.1				
Choice 5: Strongly disagree										
0. 0	45	4.9	97	7.9	3	13.6				
							2	1.143	4.474	0.012*
Question: All other conside sustainable, recycled, upcy defined as items that are Choice 1: Strongly agree	ycled, and	l/or reusal	ble materia	als instead o	of single-u	ise products	. Single-us			
	220	23.0	304	24.7	6	27.3				
Choice 2: Agree										
	364	39.5	416	33.8	4	18.2				
Choice 3: Neither agree not	U									
	219	23.8	267	21.7	5	22.7				
Choice 4: Disagree										
	74	8.0	156	12.7	4	18.2				
Choice 5: Strongly disagree			<u>.</u>	- 0						
	44	4.8	86	7.0	3	13.6	2	1.034	3.342	0.036*
Question: If an environmen purchases from a certified Choice 1: Strongly agree	l environn	nentally fri	endly reta	il floral pro	vider that	n from a reta	n I would	be more wil	ling to ma	
Chaine 2: Arman	173	18.8	208	16.9	3	13.6				
Choice 2: Agree	369	40.1	449	36.5	8	36.4				
Choice 2. Naither arrea no			449	30.5	0	30.4				
Choice 3: Neither agree not	258	28.0	383	31.2	5	22.7				
Choice 4: Disagree	238	20.0	303	31.2	3	22.7				
Sholee 4. Disagree	82	8.9	135	11.0	3	13.6				
Choice 5: Strongly disagree		0.7	155	11.0	5	13.0				
Sholee 5. Strongly disagree	39	4.2	54	4.4	3	13.6				
	57	1.2	51	1.1	0	15.0	2	1.015	3.540	0.029*
Question: If an environmen environmental quality star Choice 1: Strongly agree							n I would	trust a retail	floral pro	
0.0	160	17.4	180	14.6	2	9.1				
Choice 2: Agree										
-	373	40.5	489	39.8	6	27.3				
Choice 3: Neither agree not	r disagree									
-	263	28.6	365	29.7	8	36.4				
Choice 4: Disagree										
	88	9.6	143	11.6	5	22.7				
Choice 5: Strongly disagree										
	27	1.0	52	1.2	1	4 5				

(Continued on next page)

37

4.0

52

4.2

1

4.5

	M	ale	Fei	nale		oinary/ gender				
Statement	(n)	(%)	(n)	(%)	(n)	(%)	df	SD	F	Р
							2	1.250	3.082	0.046*
Question: How often do y	ou make f	loral purch	ases? Flow	ver purchas	es can be	defined as c	ut flowers	and indoor	potted pla	nts
purchased at retail flowe	r provider	s and separ	rate from 1	nursery/gre	eenhouse]	purchases.				
Choice 1: Once per week										
	63	6.8	63	5.1	1	4.5				
Choice 2: Once per month						. –				
	169	18.3	222	18.1	1	4.5				
Choice 3: Three to four tin			100	•	10					
	322	35.0	429	34.9	10	45.5				
Choice 4: Once or twice p	•	•••	• · · ·							
	210	22.8	266	21.6	3	13.6				
Choice 5: Once or twice e	• •		1.40	10.5		10.0				
	111	12.1	168	13.7	4	18.2				
Choice 6: Never		5.0	0.1		•	10 (
	46	5.0	81	6.6	3	13.6	2	0.705	5.678	0.003*
Question: In what manner potted plants purchased Choice 1: Phone	at retail fl	ower provi	ders and s	eparate from	m nursery	/greenhous				ndoor
	97	10.5	100	8.1	0	0.0				
Choice 2: In person										
	600	65.1	805	65.5	13	59.1				
Choice 3: Store website										
	172	18.7	233	19.0	4	18.2				
Choice 4: I do not make fl	-				_					
	52	5.6	91	7.4	5	22.7				
Question: For what reason potted plants purchased Choice 1: I most often pur	at retail fl	ower provi	ders and s						19.753 wers and in	0.001* ndoor
Choice 1: 1 most often pu	123	13.4	341	27.7	2	9.1				
Choice 2: I most often put					2	7.1				
Choice 2. 1 most often pu	726	78.8 78	783	63.7	14	63.6				
Choice 3: I do not make fl			/03	05./	14	05.0				
Choice 5. 1 do not make in	72	7.8	105	8.5	6	27.3				
	12	1.0	105	0.0	0	27.3				

* Statistically significant at $P \leq 0.05$.

df = degrees of freedom.

environmentally friendly certification existed for retail floral providers, then I would trust a retail floral providers' environmental quality standards when purchasing from an environmentally friendly-certified retail floral provider." This indicates that males had a stronger willingness to shop at floral providers with certain sustainable attributes associated with them when compared with females and nonbinary/third-gender participants (Table 2).

No significant differences were found when reviewing how much more participants were willing to pay for sustainable attributes based on gender. Although males indicated stronger willingness to make purchases from floral providers based on four of the sustainable attributes more than other genders, they were not willing to pay more for these sustainable attributes than other genders. Although not significantly different from males, overall, females were slightly more willing to pay at least 10% or more for environmentally friendly floral attributes when compared with males. This is supported by past research that found that females were more willing to pay a premium for environmentally friendly products (Laroche et al. 2001).

It was found that the following participants purchased flowers three to four times per year or more: male participants, 554 (60.1%); female participants, 714 (58.1%), and nonbinary/third-gender participants, 12 (54.5%).

Overall, the most frequent way floral purchases were made, regardless of gender, was in person [males, 600 (65.1%); females, 805 (65.5%); and nonbinary/ third gender, 13 (59.1%)]. However, male participants were slightly more likely to make purchases over the phone than female and nonbinary/third-gender participants (Table 2). Female participants were slightly more likely to make purchases using a store website than male and nonbinary/third-gender participants (Table 2).

It was found that male participants made purchases for other people at a higher rate than female participants and nonbinary/third-gender participants. Female participants made floral purchases for themselves at a higher rate than male

and nonbinary/third-gender participants. Nonbinary/third-gender participants were least likely to make floral purchases compared with male and female participants (Table 2). However, because the sample size for nonbinary/ third-gender participation was so small, the results cannot be generalized to the population. Regardless of gender, respondents were the most willing to pay a premium of 10% or more for flowers from a floral provider who uses locally sourced flowers, followed by those that compost their floral waste.

ANALYSIS BASED ON AGE. When comparing age groups, ANOVA tests found significant differences in the way respondents answered 16 questions (Table 3).

The data indicated that the overall respondents 55 years of age and older were less willing to make purchases from a retail floral provider who is environmentally friendly when compared with a retail floral provider who is not environmentally friendly in their practices and expressed the least willingness to pay a premium for sustainable attributes (Table 3). When asked to agree or disagree with the statement "I think it is the environmentally right choice to make purchases from retail floral providers based on their environmental practices," the post hoc analysis (LSD) indicated there was a difference in the way participants 54 years of age and younger responded to the question and the way participants 55 years of age and older responded. Participants 54 years of age and younger agreed or strongly agreed with the statement more when compared with participants older than 55, with participants 34 years of age and younger agreeing the most with the statement [18-24 years of age who agree or strongly agree, 144 (69.5%); 25-34 years of age who agree or strongly agree, 246 (70.3%); 35-44 years of age who agree or strongly agree, 217 (59.1%); 45-54 years of age who agree or strongly agree, 246 (60.4%); 55–64 years of age who agree or strongly agree, 226 (51.9%); 65 years of age or older who agree or strongly agree, 190 (46.9%)] (Table 2). Respondents 65 years of age or older were the least willing to pay a premium for four of the sustainable attributes they were asked about and were the least willing to shop at a floral provider with an environmentally friendly certification (Table 3). Respondents 34 years of age and younger were the most interested in and willing to pay a premium for all sustainable attributes (Table 3). Additionally, the data indicated that respondents 65 years of age or older made the fewest floral purchases when compared with all other age groups, with those between the ages of 45 and 54 years making the most floral purchases (Table 3). Past research has found that younger consumers show more interest in buying green products, but that consumers 36 to 50 years of age are the most likely group to proactively purchase products from environmentally friendly companies (Nekmahmud and Fekete-Farkas 2020; Patel et al. 2017). Regardless of age, respondents were the most willing to pay a premium of 10% or more for flowers from a floral provider who uses locally sourced flowers and composts floral waste.

Analysis based on education LEVEL. Results of the ANOVA indicated a statistically significant difference in the way respondents answered four questions based on their education level (Table 4). Overall, participants with at least some college education more strongly agreed with each statement when compared with other educational groups. Respondents with a postgraduate degree expressed the most interest in making purchases from a floral provider that uses fair trade sourced flowers when compared with other education groups [K-11, 10 (41.6%) agree or strongly agree; general educational development (GED)/high school diploma, 156 (49.8%) agree or strongly agree; some college, 275 (54.7%) agree or strongly agree; college degree, 406 (51.8%) agree or strongly agree; postgraduate degree, 276 (63.1%) agree or strongly agree; associate degree/trade school, 52 (46.0%) agree or strongly agree] (Table 4). However, respondents with a postgraduate degree did not indicate a greater willingness to pay for fair trade flowers when compared with other education groups (Table 4). More of those with a postgraduate education purchased flowers at a higher rate when compared with the other education groups [K-11, 12 (49.9%) made three to four floral purchases per year or more; GED/high school diploma, 172 (54.9%) made three to four floral purchases per year or more; some college, 284 (56.5%) made three to four floral purchases per year or more; college degree, 464 (59.2%) made three to four floral purchases per year or

more; postgraduate degree, 290 (66.4%) made three to four floral purchases per year or more; associate degree/trade school, 58 (52.2%) made three to four floral purchases per year or more] (Table 4). Past research indicated a positive correlation between environmental consciousness and education level (Boztepe 2012). When asked, "If an environmentally friendly certification existed for retail floral providers, then I would trust a retail floral providers' environmental quality standard when purchasing from an environmentally friendly-certified retail floral provider," the post hoc analysis (LSD) indicated there was a difference in the way participants with a K to 11 education answered the question when compared with all other education groups. A majority of all other education groups agreed or strongly agreed with the statement, whereas only 7 (29.1%) of K to 11 education participants agreed or strongly agreed with the statement. However, because the sample size of those with a K to 11 education was small, results regarding this demographic group cannot be generalized to the demographic. Regardless of education level, respondents were the most willing to pay a premium of 10% or more for flowers from a floral provider who uses locally sourced flowers and composts floral waste.

ANALYSIS BASED ON RACE. Respondents' answers were compared based on race. A majority of all the participants (69.7%) were white/Caucasian. Because the sample size for other racial groups was small, results regarding some racial groups other than white/Caucasians cannot be generalized to the population as a whole and could vary when testing a larger, more racially diverse sample.

The ANOVAs indicated significant differences in the way participants answered 14 of the survey questions based on their race (Table 5).

Asian/Asian American respondents were more willing to make purchases from retail floral providers that are environmentally friendly when compared with retail floral providers that are not environmentally friendly when compared with other racial groups [white/Caucasian participants who agree or strongly agree, 915 (60.5%); black/African American participants who agree or strongly agree, 98 (59.2%); Hispanic/Latino participants who agree or strongly agree, 118 (63.8%); Asian/Asian American participants who agree or strongly agree, 140

	18-	18-24	25-	25-34	35	35-44	45-	45-54	55-	5-65	۸I	≥65				
Age, years	(u)	(%)	(u)	(%)	(u)	(%)	(u)	(%)	(u)	(%)	(u)	(%)	df S	SD F	rt :	Ρ
Question: I think it is the environmentally right choice to make	- muiron	ntally ria	ht choice		seschaurd	from rets	n foral n	rovidere F	uo pasec	their envir	onmenta	uurchases from retail floral nroviders hased on their environmental nractices	5 1.(1.023 13.07	4	0.001*
Choice 1: Strongly agree					purchase		an morar F	I CATACTO I	Dased UII		וסווווננוומ	n pravuvvs.				
	45	21.7	71	20.3	64	17.4	90	22.1	67	15.4	73	18.0				
Unoice 2: Agree	66	47.8	175	50.0	153	41.7	156	38.3	159	36.5	117	28.9				
Choice 3: Neither agree nor disagree	or disagree	נ 25 1	78	22.3	011	30.0	117	28.7	122	28.0	[2]	32.3				
Choice 4: Disagree	4	1.02	2	0.11	011	0.00	/ • •	1.07	771	0.07	101	0.40				
Choice 5. Strongly disarree	~	3.4	21	6.0	26	7.1	31	7.6	60	13.8	61	15.1				
argum (1911) and a state	4	1.9	Ω	1.4	14	3.8	13	3.2	28	6.4	23	5.7	- - -	1 1 2 5 1 4 200		*1000
Question: Overall, I would be more willing to make purchases from a retail floral provider who is environmentally friendly than from a retail floral provider who is not environmentally friendly.	be more	willing to) make pı	urchases fi	rom a ret:	ail floral p	rovider w	ho is envi	ironmenta	ally friendl	ly than fr	om a retail	floral provide	er who is r		100.
Choice 1: Strongly agree																
- - - -	75	36.2	101	28.9	96	26.2	107	26.3	100	22.9	84	20.7				
Choice 2: Agree	77	37.2	137	39.1	144	39.2	154	37.8	130	29.8	129	31.9				
Choice 3: Neither agree nor disagree	or disagree		6		L G		00	č			č					
Choice 4. Disagree	47	20.3	81	25.1	çõ	7.67	98	24.1	105	25.0	90	7.97				
ounter 1. Lungro	×	3.9	21	6.0	20	5.4	25	6.1	68	15.6	61	15.1				
Choice 5: Strongly disagree	и 0	۲ ر	01	0 (ć	U 9	, 22	Г Ц	о 1	0.0	о С	70				
	n	1 .7	10	6.7	77	0.0	C7	/.c	ce	0.0	00	0.0	5 1.]	1.185 8.2	8.213 0.	0.001^{*}
Question: All other considerations held the same, I would be m retail floral provider who disposes of floral waste in municipal	erations h disposes	eld the sa of floral v	ume, I wo vaste in n	uld be m nunicipal	ore willing landfills.	g to make	purchase	s from a 1	retail flora	al provideı	r who rec	ycles flowe	te thi	igh compo		than a
Choice 1: Strongly agree	62	38.2	101	28.9	102	27.8	125	30.7	123	28.2	134	33.1				
Choice 2: Agree																
68 Chaine 2: Maithan anna ann an dianna	68 	32.9	144	41.1	138	37.6	141	34.6	125	28.7	107	26.4				
CIIOICC 3. INCIIICI ABICC III	45	21.7	81	23.1	81	22.1	82	20.1	62	18.1	65	16.0				
Choice 4: Disagree	10	4.8	17	4.9	23	6.3	37	9.1	71	16.3	50	12.3				
Choice 5: Strongly disagree																
	ഹ	2.4	~	2.0	23	6.3	22	5.4	38	8.7	49	12.1				

	9	10-24	-07	40-07	00-44	- 11	40 4	40-04	Ċ C	00-00	NI	c0√				
Age, years	(u)	(%)	(u)	(%)	(u)	(%)	(u)	(%)	(u)	(%)	(u)	(%)	df	SD	F	Ρ
:							1			:			5 1	1.498	10.941	0.001^{*}
Question: Please indicate how much more, if any, you would be willing t composting rather than disposing of floral waste in a municipal landfill	how muc. disposing	h more, if 5 of floral v	any, you vaste in a		willing to landfill.	o pay for <i>i</i>	a flower a	rrangemei	nt made i	by a retail	floral prc	ovider who	willing to pay for a flower arrangement made by a retail floral provider who recycles flower waste through I landfill.	wer was	te throu	gh
Choice 1: 0%	t c		00													
Choire 2.5%	/7	15.0	59	1.11	/0	1.41	6/	19.4	109	0.62	711	1.17				
	29	14.0	73	20.9	63	17.2	88	21.6	60	20.6	66	24.4				
Choice 3: 10%	71	34.3	96	27.4	112	30.5	105	25.8	129	29.6	106	26.2				
Choice 4: 15%	46	22.2	65	18.6	54	14.7	50	12.3	43	9.9	33	8.1				
Choice 5: 20%	18	8.7	45	12.9	39	10.6	47	11.5	33	7.6	29	7.2				
Choice 6: 25% or more	16	7.7	32	9.1	29	7.9	38	9.3	32	7.3	26	6.4		(1 ,		
2 1.132 3.040 U Question: All other considerations held the same, I would be more willing to make purchases from a retail floral provider who sells flowers sourced from local farmers and nurseries (farms and nurseries within 100 miles of the retail floral provider).	lerations l series wit	held the sa hin 100 m	tme, I wo the of th	uld be mc e retail flo	ore willing ral provic	g to make ler).	purchase	s from a r	etail flora	ıl provideı	: who sell	s flowers s	ourced from	n local fa	o.040 armers ai	too.o
Choice 1: Strongly agree	49	23.7	74	21.1	92	25.1	111	27.3	114	26.1	127	31.4				
Choice 2: Agree	98	47.3	165	47.1	155	42.2	172	42.3	141	32.3	117	28.9				
Choice 5: Neither agree nor disagree 48	or disagre 48	се 23.2	81	23.1	81	22.1	65	16.0	66	15.1	66	16.3				
Choice 4: Disagree	ы	2.4	22	6.3	17	4.6	40	9.8	70	16.1	51	12.6				
Choice 5: Strongly disagree	se 7	3.4	8	2.3	22	6.0	19	4.7	45	10.3	44	10.9				
Question: Please indicate how much more, if any, you would be floral provider).	how muci	h more, if	any, you	would be) pay for a	a flower a	willing to pay for a flower arrangement made using locally	nt made 1	using loca	lly grown	flowers (g	5 1.468 7.404 0.001 grown flowers (grown within 100 miles of the retail	1.468 in 100 m	7.404 niles of th	0.001* 1e retail
Choice 1: 0%	23		32	1.6	73	15.5	76	18.7	82	18.8	100	24.7				
Choice 2: 5%	40	10.2	74		77	17.4	, 75 8	20.4	00	7 7 7	001	747				
Choice 3: 10%																
Choice 4: 15%	/9	32.4	106	30.3	109	29.7	501	25.8	134	30.7	109	26.9				
	47	22.7	71	20.3	63	17.2	60	14.7	41	9.4	35	8.6				
	14	6.8	43	12.3	37	10.1	48	11.8	49	11.2	35	8.6				
VIIOICE 0: 73% 01 11101C	16	7.7	24	6.9	37	10.1	35	8.6	31	7.1	26	6.4				

	18-	18-24	25-34	-34	35-44	44	45-	45-54	ល់	55-65	۸Ĭ	≥65				
Age, years	(u)	(%)	(u)	(%)	(u)	(%)	(u)	(%)	(u)	(%)	(u)	(%)	df	SD	F	Ρ
													5	1.057	6.140	0.001^{*}
Question: All other considerations held the same, I would be more willing to make purchases from a retail floral provider who sells organically grown flowers (flowers grown and processed using no synthetic fertilizers or pesticides).	derations h synthetic :	neld the sí fertilizers	ume, I wo or pestici	uld be me des).	ore willing	g to make	purchase	s from a 1	retail flora	ıl provider	t who sell	s organica.	lly grown	n flowers (f	flowers gr	UMO.
Choice 1: Strongly agree	45	21.7	60	17.1	68	18.5	83	20.4	69	15.8	66	16.3				
Choice 2: Agree	77	37.2	137	39.1	126	34.3	143	35.1	142	32.6	107	26.4				
Choice 3: Neither agree nor disagree 66	nor disagre 66	с 31.9	117	33.4	133	36.2	124	30.5	139	31.9	145	35.8				
Choice 4: Disagree	12	5.8	24	6.9	24	6.5	34	8.4	57	13.1	61	15.1				
Choice 5: Strongly disagree	cc 2	3.4	12	3.4	16	4.4	23	5.7	29	6.7	26	6.4	ŭ		711 o	*100.0
Question: Please indicate how much more, if any, you would be using no synthetic fertilizers or pesticides).	how much izers or pe	1 more, if sticides).	any, you	would be) pay for ;	a flower a	urrangemei	nt made 1	ısing orga	unically gr	own flowe	e ers (flowe	willing to pay for a flower arrangement made using organically grown flowers (flowers grown and processed	o.117 and proce	ssed .
	38	18.4	64	18.3	94	25.6	113	27.8	125	28.7	164	40.5				
Choice 2: 5%	48	23.2	74	21.1	67	18.3	73	17.9	06	20.6	84	20.7				
Choice 3: 10%	58	28.0	88	25.1	95	25.9	103	25.3	112	25.7	73	18.0				
Choice 4: 15%	30	14.5	77	22.0	53	14.4	51	12.5	36	8.3	36	8.9				
Choice 5: 20%	21	10.1	27	7.7	28	7.6	44	10.8	46	10.6	29	7.2				
Choice 6: 25% or more	12	5.8	20	5.7	30	8.2	23	5.7	27	6.2	19	4.7	ı			
2 1.038 7.190 0.001 Question: All other considerations held the same, I would be more willing to make purchases from a retail floral provider who sells fair trade-sourced flowers (fair trade can be defined as trade between companies in developed countries and producers in developing countries in which fair prices are paid to the producers).	derations h n compani	neld the sé ies in deve	ame, I wo cloped cor	uld be me untries an	əre willinş d produce	g to make ers in deve	purchase eloping co	s from a r ountries ir	tetail flora 1 which fa	d provider ur prices a	t who selle ure paid to	s fair trade o the prod	c-sourced lucers).	1.038 A flowers (f	7.190 air trade	u.uu1* can be
Choice 1: Suroligity agree	40	19.3	83	16.6	64	17.4	87	21.4	63	14.4	74	18.3				
Choice 2: Agree							5									
85 Choice 3: Neither agree nor disagree	85 10r disagre	6 41.1	164	46.9	141	38.4	139	34.2	139	31.9	121	29.9				
	63	30.4	100	28.6	119	32.4	122	30.0	140	32.1	134	33.1				
Clioice 4: Disagree	12	5.8	18	5.1	29	7.9	43	10.6	64	14.7	56	13.8				
Choice 5: Strongly disagree	cc 7	3.4	10	2.9	14	3.8	16	3.9	30	6.9	20	4.9				

(n) (n) <th></th> <th>18</th> <th>18-24</th> <th>25</th> <th>25-34</th> <th>35</th> <th>35-44</th> <th>45-54</th> <th>54</th> <th>55-65</th> <th>65</th> <th>Ň</th> <th>≥65</th> <th></th> <th></th> <th></th> <th></th>		18	18-24	25	25-34	35	35-44	45-54	54	55-65	65	Ň	≥65				
(n) (n) <th></th> <th></th> <th></th> <th></th> <th>10</th> <th></th> <th></th> <th></th> <th></th> <th>S</th> <th>8</th> <th>Í</th> <th></th> <th></th> <th></th> <th></th> <th></th>					10					S	8	Í					
Please indicate how much more, if any, you would be willing to pay for a trade between companies in developed countries and producers in developed countries and developed countries and in developed countries and developed coreveloped coreveloped countries and developed countres	Age, years	(u)	(%)	(u)	(%)	(u)	(%)	(u)	(%)	(u)	(%)	(u)	(%)	df	SD	F	P
se indicate how much more, if any, you would be withing to pay for ade between companies in developed countries and producers in developed countries and produces in developed countries and produces in the developed countries and produces in the developed countries and produces in the developed countries instead of single-use products. Single-use products indice use plastic products condisatree developed and and a single developed of any, you would be more willing to pay for agle use products. 21.3 22.3 24.4 20 21.4 or more 9 4.3 22 6.3 30.9 87 24.9 79 79 or more 9 4.3 22 6.3 30.9 87 21.3 21.3 or more 73 31.47 42.0 147 42.0 147 40.1 her agree 47 23 35.3 147 42.0 147 40.1 her agree 47 8.0 8.2 25.5 101 27.5 5.4 her agree 17 33.4 147														ы	1.425	10.201	0.001^{*}
ade between companies in developed countries and producers in dev 41 19.8 52 14.9 79 21.5 50 24.2 92 26.3 87 23.7 65 31.4 91 26.0 100 27.2 25 12.1 60 17.1 52 14.2 25 12.1 60 17.1 52 14.2 9 4.3 23 9.4 29 7.9 or more 9 4.3 22 6.3 5.4 or more 9 4.3 23 24.9 78 7.9 or more 9 4.3 24.7 20 5.4 40.1 ngly agree 64 30.9 87 24.9 78 21.3 are 73 35.3 147 42.0 147 40.1 her agree nor disagree 64 30.9 22.9 101 27.5 are 73 35.3 147 42.0 147 40.1 her agree nor disagree 17	Question: Please indicate l	iow muci	h more, if	any, you	would be		o pay for a	t flower a	rrangemer	it made u	ısing fair t	rade-sou	red flower	rs (fair tra	ade can be	6	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	defined as trade between Choice 1.0%	n compan	uies in dev	eloped cc	ountries ar	nd produc	ers in deve	eloping co	ountries in	t which fa	uir prices a	ure paid to	o the prod	lucers).			
		41	19.8	52	14.9	79	21.5	120	29.5	135	31.0	154	38.0				
	Choice 2: 5%	50	24.2	92	26.3	87	23.7	74	18.2	100	22.9	95	23.5				
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Choice 3: 10%	ļ		č						(ç	c l				
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Choice 4: 15%	ç9	31.4	16	26.0	100	27.2	101	24.8	119	27.3	69	17.0				
17 8.2 33 9.4 29 7.9 or more 9 4.3 22 6.3 0 5.4 other considerations held the same, 1 would be more willing to make crials instead of single-use products. Single-use plastic products can held the same, 1 would be more willing to make crials instead of single-use products. Single-use products. Single-use products. 35.3 147 40.1 ngly agree 73 35.3 147 42.0 147 40.1 her agree nor disagree 73 35.3 147 42.0 147 40.1 her agree nor disagree 17 8.2 25 7.1 21.3 5.7 ngly disagree 6 2.9 11 3.1 20 5.4 ngly disagree 6 2.9 11 3.1 20 5.4 ngly disagree 6 2.9 10.1 27.5 5.4 ngly disagree 6 2.9 101 20 5.4 se indicate how much more, if any, you would be willing to pay for sigle-use products. 3.4 10.0 28.		25	12.1	60	17.1	52	14.2	57	14.0	43	9.9	45	11.1				
or more 9 4.3 22 6.3 20 5.4 ather considerations held the same, I would be more willing to make crials instead of single-use products. Single-use plastic products can 5.4 ngly agree 64 30.9 87 24.9 78 21.3 at 73 35.3 147 42.0 147 40.1 her agree 73 35.3 147 42.0 147 40.1 her agree 73 35.3 147 42.0 147 40.1 her agree nor disagree 17 8.2 25 7.1 21 57 geree 17 8.2 25 7.1 20 5.4 ngly disagree 6 2.9 11 3.1 20 5.4 ngly disagree 16.4 42 12.0 71 19.3 se indicate how much more, if any, you would be willing to pay for agle-use products. 34 16.4 72 20.6 52.9 14.2 se indicate how much more, if any, you		17	8.2	33	9.4	29	7.9	35	8.6	24	5.5	28	6.9				
ther considerations held the same, I would be more willing to make crials instead of single-use products. Single-use plastic products can ngly agree 64 30.9 87 24.9 78 21.3 as 73 35.3 147 42.0 147 40.1 her agree nor disagree 47 22.7 80 22.9 101 27.5 gree 17 8.2 25 7.1 21 5.7 ngly disagree 17 8.2 25 7.1 21 21 5.7 ngly disagree 6 2.9 11 3.1 20 5.4 3.4 16.4 4.2 12.0 71 19.3 3.4 16.4 4.2 12.0 71 $19.3 3.4 16.4 72 20.3 80 22.9 82 22.3 3.4 16.4 72 22.6 7.1 20.6 3.4 100 28.6 100 28.9 3.2 3.4 100 28.6 100 28.9 3.2 3.4 100 28.6 100 28.9 3.2 3.4 100 28.6 100 28.9 3.2 3.4 15 7.2 3.1 8.9 3.0 8.2 3.2 3.4 100 28.6 100 28.9 3.2 3.2 3.4 100 28.6 100 28.9 3.2 3.2 3.4 100 28.6 100 28.9 3.2 3.2 3.2 3.4 100 28.6 100 28.9 3.2 3.2 3.2 3.4 100 28.6 100 28.9 3.2 3.2 3.4 100 28.6 100 28.0 3.2 3.2 3.4 100 28.6 100 28.0 3.2 3.$	CII01CE 0: 23% OF III0FE	6	4.3	22	6.3	20	5.4	20	4.9	15	3.4	14	3.5	ı	,		
	Question: All other consid reusable materials instea	erations d of singl	held the si le-use proc	ame, I wo ducts. Sin	ould be m 1gle-use pl	ore willin astic prod	g to make lucts can b	purchase e defined	s from a r as items 1	etail flora that are u	l provider Ised once	who use or for a s	s sustainab hort perio	o ole, recycle od of time	ed, upcycl before be	/.17/ led, and/ eing thro	or Null Null Null Null Null Null Null Nul
	away. Choice 1: Strongly agree																
	Choire J. Arree	64	30.9	87	24.9	78	21.3	107	26.3	92	21.1	102	25.2				
ther agree nor disagree 47 22.7 80 22.9 101 27.5 gree 17 8.2 25 7.1 21 5.7 ngly disagree 6 2.9 11 3.1 20 5.4 ngly disagree 6 2.9 11 3.1 20 5.4 ngly disagree 2.9 11 3.1 20 5.4 ngle-use products. 34 16.4 42 12.0 71 19.3 se indicate how much more, if any, you would be willing to pay for agle-use products. 34 16.4 42 12.0 71 19.3 se indicate how much more, if any, you would be willing to age 23.3 20.3 23.3 23.3 23.4 100 28.6 10.3 24.3 for age 32.4 100 28.6 106 28.9 23.3 23.4 20.6 52 14.2 for age 7.1 8.9 30 8.9 30 8.2 31.4 or more 15 7.2 21 25 14.2 14.2 <td>CITOLIC 2. Agric</td> <td>73</td> <td></td> <td>147</td> <td>42.0</td> <td>147</td> <td>40.1</td> <td>150</td> <td>36.9</td> <td>151</td> <td>34.6</td> <td>116</td> <td>28.6</td> <td></td> <td></td> <td></td> <td></td>	CITOLIC 2. Agric	73		147	42.0	147	40.1	150	36.9	151	34.6	116	28.6				
gree 17 8.2 25 7.1 21 5.7 ngly disagree 6 2.9 11 3.1 20 5.4 ngle use products. 34 16.4 42 12.0 71 19.3 agle-use products. 34 16.4 42 12.0 71 19.3 agle-use products. 32.4 100 28.6 106 28.9 22.3 agle-use products. 32.4 100 28.6 106 28.9 23.3 agle-use 16.4 72 20.6 52 14.2 addition of the state	Choice 3: Neither agree m	or disagri 47		80	22.9	101	27.5	86	21.1	86	19.7	16	22.5				
ngly disagree 6 2.9 11 3.1 20 5.4 se indicate how much more, if any, you would be willing to pay for agle-use products. 34 16.4 42 12.0 71 19.3 34 16.4 42 12.0 71 19.3 42 20.3 80 22.9 82 22.3 67 32.4 100 28.6 106 28.9 34 16.4 72 20.6 52 14.2 34 16.4 72 20.6 52 14.2 15 7.2 31 8.9 30 8.2 or more 15 7.2 21 26 7.1 26 7.1	Choice 4: Disagree		8.2	25	7.1	21	5.7	44	10.8	66	15.1	61	15.1				
se indicate how much more, if any, you would be willing to pay for agle-use products. 34 16.4 42 12.0 71 19.3 42 20.3 80 22.9 82 22.3 67 32.4 100 28.6 106 28.9 34 16.4 72 20.6 52 14.2 15 7.2 31 8.9 30 8.2 or more 15 7.2 25 7.1 26 7.1	Choice 5: Strongly disagre		2.9	11	3.1	20	5.4	20	4.9	41	9.4	35	8.6	ı			
aple-use products. 34 16.4 42 12.0 71 19.3 94 23.1 113 25.9 130 42 20.3 80 22.9 82 22.3 84 20.6 97 22.2 96 67 32.4 100 28.6 106 28.9 105 25.8 126 28.9 87 34 16.4 72 20.6 52 14.2 49 12.0 40 9.2 37 15 7.2 31 8.9 30 8.2 46 11.3 41 9.4 36 or more 15 7.2 25 7.1 26 7.1 29 7.1 10 41 9.4 10	Question: Please indicate I	iow mucl	h more, if	any, you	would be			ו flower a	rrangemer.	it made u	Ising susta	uinable, re	cycled, up	5 ocycled, ai	1.460 nd∕or reu	8.394 Isable mai	0.001* terials
34 16.4 42 12.0 71 19.3 94 23.1 113 25.9 130 42 20.3 80 22.9 82 22.3 84 20.6 97 22.2 96 67 32.4 100 28.6 106 28.9 105 25.8 126 28.9 87 34 16.4 72 20.6 52 14.2 49 12.0 40 9.2 37 15 7.2 31 8.9 30 8.2 46 11.3 41 9.4 36 or more 15 7.2 25 7.1 26 7.1 29 7.1 19 41 19	instead of single-use pro Choice 1: 0%	ducts.															
42 20.3 80 22.9 82 22.3 84 20.6 97 22.2 96 67 32.4 100 28.6 106 28.9 105 25.8 126 28.9 87 34 16.4 72 20.6 52 14.2 49 12.0 40 9.2 37 15 7.2 31 8.9 30 8.2 46 11.3 41 9.4 36 or more 15 7.2 25 7.1 26 7.1 29 7.1 19 44 19	Choice 2: 5%	34	16.4	42	12.0	71	19.3	94	23.1	113	25.9	130	32.1				
67 32.4 100 28.6 106 28.9 105 25.8 126 28.9 87 34 16.4 72 20.6 52 14.2 49 12.0 40 9.2 37 15 7.2 31 8.9 30 8.2 46 11.3 41 9.4 36 or more 15 7.2 25 7.1 26 7.1 19 4.4 19 36		42	20.3	80	22.9	82	22.3	84	20.6	97	22.2	96	23.7				
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Choice 3: 10%	67	32.4	100	28.6	106	28.9	105	25.8	126	28.9	87	21.5				
$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	Choice 4: 15%	č		i i		e 1		9				l	, c				
15 7.2 31 8.9 30 8.2 4.6 11.3 4.1 9.4 or more 15 7.2 2.5 7.1 2.6 7.1 2.9 7.1 1.9 4.4	Choice 5: 20%	34	16.4	7/	20.0	79	14.2	49	12.0	40	7.6	3/	9.1				
15 7.2 25 7.1 26 7.1 29 7.1 19 4.4	Choice 6: 35% or more	15	7.2	31	8.9	30	8.2	46	11.3	41	9.4	36	8.9				
		15	7.2	25	7.1	26	7.1	29	7.1	19	4.4	19	4.7				
															(Contin	(Continued on next page)	ext page)

Table 3. (Continued)

Age, years		10-24	25	25-34	35	35-44	45	45-54	5 5 2	5-65	ΛI	≥65				
	(u)	(%)	(u)	(%)	(u)	(%)	(u)	(%)	(u)	(%)	(u)	(%)	df	SD	н	P
													ы	1.034	8.831	0.001^{*}
Question: If an environmentally friendly certification existed for retail floral providers, then I would be more willing to make purchases from a certified environmentally friendly retail floral provider than from a retail floral provider not certified.	entally fric in from a	endly certi retail flora	fication e I providei	xisted for r not certi	retail flor fied.	al provide.	rs, then I	would be	e more w	illing to n	aake purc	hases from	ı a certific	ed enviror	ımentally	friendly
Choice 1: Strongly agree			I													
	51	24.6	67	19.1	58	15.8	69	17.0	77	17.7	62	15.3				
Unoice 2: Agree	87	42.0	150	42.9	157	42.8	159	39.1	141	32.3	132	32.6				
Choice 3: Neither agree nor disagree	tor disagre															
Choise 4. Discours	50	24.2	102	29.1	113	30.8	129	31.7	125	28.7	127	31.4				
CIIOICE 4: DISABLEE	14	6.8	24	6.9	26	7.1	34	8.4	59	13.5	63	15.6				
Choice 5: Strongly disagree	и cc	ć	٢		12	с Ц	או	2 0	27	0	[с и				
	n	4.4	`	7.0	61	c.c	01	6.0	0 1	0./	17	7.0	v	1 015	10 301	0 001*
Question: If an environmentally friendly certification existed for retail floral J purchasing from an environmentally friendly-certified retail floral provider.	entally fric ironments	endly certi ally friendl	fication e ly-certified			al provide. ler.	rs, then I	would tr	ust a reta	il floral pr	ovider's e	retail floral providers, then I would trust a retail floral provider's environmental quality standards when ral provider.	utal quali	ty standar	ds when	
Choice 1: Strongly agree																
	42	20.3	62	17.7	57	15.5	71	17.4	54	12.4	56	13.8				
Choice 2: Agree	10		160	т Ц	121	0 07		- 10	1 Z L	7 L C		1 10				
91 Choice 3: Neither agree nor disagree	91 Ior disagre	0. 11 .0	601	40.4	101	40.7	101	1./c	104	0.7c	142	1.66				
	54	26.1	66	28.3	117	31.9	129	31.7	121	27.8	116	28.6				
Choice 4: Disagree																
	13	6.3	22	6.3	24	6.5	42	10.3	68	15.6	67	16.5				
Choice 5: Strongly disagree	cc 7	2	0	, 2	0	((7	υc	5	ć	0 1				
	`	o.4	0	C.7	0	7:7	14 1	o. 1	67	0./	74	6.c	ır.	1411	6.997	0.001*
Question: Please indicate how much more, if any, you would be such a certification existed	how muc.	h more, if	any, you	would be		o pay for 1	lowers ar	ıd floral d	esigns frc	om an env	ironment	willing to pay for flowers and floral designs from an environmentally friendly-certified retail floral provider if	ly-certifie	d retail flc	oral provid	ler if
Choice 1: 0%																
	32	15.5	47	13.4	77	21.0	66	24.3	108	24.8	125	30.9				
Choice 2: 5%	44 44	21.3	8 5	24.3	77	21.0	87	21.4	104	23.9	67	24.0				
Choice 3: 10%)				5									
	66	31.9	93	26.6	105	28.6	106	26.0	118	27.1	96	23.7				
Choice 4: 15%	42	20.3	69	197	ហ ហ	15.0	57	14.0	49	2 11	42	104				
Choice 5: 20%	1		ò		2		ò			1	1					
	14	6.8	39	11.1	33	9.0	40	9.8	36	8.3	30	7.4				
Choice 0: 25% or more	6	4.3	17	4.9	20	5.4	18	4.4	21	4.8	15	3.7				

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	18-	18-24	25-34	-34	35-44	44	45-54	54	55-65	65	≥65	55				
Age, years	(u)	(%)	(u)	(%)	(u)	(%)	(u)	(%)	(u)	(%)	(u)	(%)	df	SD	F	Ρ
													5	1.250		$5.606 0.001^{*}$
Question: How often do you make floral purchases? Flower purchases can be defined as cut flowers and indoor potted plants purchased at retail flower providers and separate	'ou make	floral pur	chases? Fl	ower purc	hases can	be define	d as cut f	lowers and	l indoor	potted pla	nts purch	ased at re	tail flowe	r provider	s and sep	arate
from nursery/greenhouse purchases.	se purchas	ses.														
Choice 1: Once per week																
I	16	7.7	26	7.4	18	4.9	36	8.8	20	4.6	11	2.7				
Choice 2: Once per month	r															
ł	39	18.8	70	20.0	73	19.9	77	18.9	86	19.7	47	11.6				
Choice 3: Three to four times per year	mes per y	ear														
	64	30.9	114	32.6	120	32.7	142	34.9	166	38.1	155	38.3				
Choice 4: Once or twice per year	er year															
	39	18.8	70	20.0	83	22.6	89	21.9	102	23.4	96	23.7				
Choice 5: Once or twice every few year	very few	year														
	34	16.4	43	12.3	50	13.6	51	12.5	42	9.6	63	15.6				
Choice 6: Never																
	15	7.2	27	7.7	23	6.3	12	2.9	20	4.6	33	8.1				

* Statistically significant at $P \leq 0.05$. df = degrees of freedom.

	K-11	1	GED/high school diploma	/high diploma	Some	Some college	College	College degree	Postgr deg	Postgraduate degree	Associate, school d	Associate/trade school degree				
Education Level	(u)	(%)	(u)	(%)	(u)	(%)	(u)	(%)	(u)	(%)	(u)	(%)	df	SD	F	P
			1					,	1				5	1.038	2.783	0.016*
Question: All other considerations held the same, I would be more willing to make purchases from a retail floral provider who sells fair trade-sourced flowers (fair trade can be defined as trade between companies in developed countries in developing countries in which fair prices are paid to the producers).	rations h companie	eld the sa s in deve	me, I wo loped co	uld be me untries an	ore willin d produc	g to make ers in dev	: purchase eloping c	s from a r ountries in	etail flora 1 which रि	ll providen ur prices (t who sell are paid t	ls fair trade o the prod	-sourced ucers).	flowers (:	fair trade	can be
Choice 1: Strongly agree	7	8.3	58	18.5	86	17.1	120	15.3	98	22.4	22	19.8				
Choice 2: Agree	~	33.3	98	31.3	189	37.6	286	36.5	178	40.7	30	27.0				
Choice 3: Neither agree nor disagree 12	r disagree 12		124	39.6	170	33.8	233	29.7	96	22.0	43	38.7				
Choice 4: Disagree	0	0.0	23	7.3	43	8.5	105	13.4	38	8.7	13	11.7				
Choice 5: Strongly disagree	2	8.3	10	3.2	15	3.0	40	5.1	27	6.2	ю	2.7				
Question: If an environmentally friendly certification existed for retail floral purchasing from an environmentally friendly-certified retail floral provider.	tally frier onmental	ıdly certif İy firiendly	ication es r-certifiec	kisted for : I retail flor	retail flor ral provid	al provide: ler.	rs, then I	would tru	ıst a retai	l floral pr	ovider's e	5 1.015 2.506 retail floral providers, then I would trust a retail floral provider's environmental quality standards when ral provider.	5 Ital quality	1.015 y standar	2.506 ds when	0.029*
Choice 1: Strongly agree	2	8.3	57	18.2	75	14.9	117	14.9	71	16.2	20	18.0				
Choice 2: Agree	ъ	20.8	117	37.4	186	37.0	325	41.5	197	45.1	38	34.2				
Choice 3: Neither agree nor disagree 11	r disagree 11	45.8	107	34.2	170	33.8	202	25.8	106	24.3	40	36.0				
Choice 4: Disagree	3	12.5	25	8.0	51	10.1	103	13.1	43	9.8	11	9.9				
Choice 5: Strongly disagree	ŝ	12.5	\sim	2.2	21	4.2	37	4.7	20	4.6	7	1.8	ı			
o 0.00 Juestion: How often do you make floral purchases? Flower purchases can be defined as cut flowers and indoor potted plants purchased at retail flower providers and separate from nursery/greenhouse purchases.	ou make f purchase	loral purc 's.	hases? Fl	ower purc	thases car	1 be define	ed as cut	flowers an	d indoor	potted pl	ants purc	hased at re	c tail flowe:	r provide	o.044 rs and sej	0.001 ⁺ parate
Choice 1: Once per week	, c	ر ہ	ć	י 1	Ľ	ć	Ľ		5	- 1	r	с v				
Choice 2: Once per month	4 1	0.0	07	c. /	ì	н I о ;	Ì ;	0.0	10	1/	- ;	c.U				
5 2 Choice 3: Three to four times per vear	5 Des ner ve	20.8 ar	48	15.5	14	14./	155	c.91	94 4	c.12	18	10.2				
	5 2	ي 20.8	101	32.3	193	38.4	264	33.7	165	37.8	33	29.7				
Choice 4: Once or twice per year 7	r year 7	29.2	56	17.9	112	22.3	184	23.5	92	21.1	28	25.2				
Choice 5: Once or twice every few years 3 12	ery few y 3	cars 12.5	45	14.4	74	14.7	105	13.4	38	8.7	18	16.2				
Choice 6: Never	ç	8	40	128	, , ,	ýý	16	4 0	71	3 0	Г	63				

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			GED	GED/high					Postgr	Postgraduate Associate/trade	Associat	e/trade				
	K-11	11	school	school diploma	Some c	Some college College degree	College	degree	degree	ree	school degree	degree				
Education Level	(u)	(%)	(m) (m) (m) (m)	(%)	(u)	(%)	(u)	(%)	(u)	(%)	(u)	(%)	df	SD	F	Ρ
													ы	0.531	0.531 5.972 0.001*	0.001^{*}
Question: For what reason do you most often make floral purchases? Flower purchases can be defined as cut flowers and indoor potted plants purchased at retail flower	i do you r	nost ofter	n make fle	oral purché	ases? Flow	rer purcha	ises can be	e defined	as cut flo	wers and	indoor pc	tted plants	s purchas	sed at retai	il flower	
providers and separate from nursery/greenhouse purchases.	om nurse	rty/green	house put	rchases.												
Choice 1: I most often purchase flowers for myself	rchase flov	wers for 1	myself													
I	3	12.5		17.3	98	19.5	174	22.2	110	25.2	27	24.3				
Choice 2: I most often purchase flowers as a gift for others	rchase flor	wers as a	gift for o	thers												
4	18	75.0	18 75.0 208 66.5	66.5	356	70.8	566	72.2	302	69.1	73	65.8				
Choice 3: I do not make floral purchases	loral purc	hases														
	З	3 12.5		51 16.3	49	9.7	44	5.6	25	5.7	11	9.9				
* Statistically significant at $D < 0.05$	75															

Statistically significant at $P \leq 0.05$. c = decreases of freedom: GFD = meneral educational developm

df = degrees of freedom; GED = general educational development

(71.4%); American Indian/Alaskan Native participants who agree or strongly agree, 17 (62.9%); Hawaiian/Pacific Islander participants who agree or strongly agree, 5 (55.5%); participants of another race who agree or strongly agree, 41 (53.3%)] (Table 5). However, this did not translate to an overall willingness to pay more for flowers from a floral provider with environmentally sustainable attributes when compared with other racial groups. This could be explained, in part, by cultural upbringing. Past research has found that those from Asian countries are influenced by their cultural norms and the implemented policies of their governments (Chan and Chau 2019).

Caucasians and those who identified as a race other than those on the answer list were found to be the least willing to pay a premium for five of the sustainable attributes asked about when compared with all other racial groups. Those who identified as a race other than those on the answer list were also found to answer an additional four questions differently when compared with all other racial groups. Those statements were as follows: "All other considerations held the same, I would be more willing to make purchases from retail floral providers that sell flowers sourced from local farmers and nurseries (farms and nurseries within 100 miles of the retail floral provider)"; "Please indicate how much more, if any, you would be willing to pay for a flower arrangement made using locally grown flowers (grown within 100 miles of the retail floral provider)"; "When deciding where to make a floral purchase, which of the following aspects of sustainability do you consider to be the most important for a retail floral provider to practice"; and "If an environmentally friendly certification existed for retail floral providers, then I would trust retail floral providers' environmental quality standards when purchasing from environmentally friendly-certified retail floral providers.' Those who identified as a race other than those on the answer list were found to be the least willing to make floral purchases from a sustainable a floral provider who uses locally sourced flowers and were the least willing to trust and a pay a premium to a floral provider with an environmentally friendly certification. When asked, "When deciding where to make a floral purchase, which of the following aspects of sustainability do

C	White/ Caucasian	Black An	Black/African American	Hispanio Latino	ispanic/ Latino	Asian, Ame	Asian/Asian American	America Indian, Alaska Na	American Indian/ Alaska Native	Native Hawaiian, Pacific Islan	Native Hawaiian/ Pacific Islander	Anc ra	Another race				
Race (n)	(%) ((II)	(%)	(u)	(%)	(u)	(%)	(u)	(%)	(u)	(%)	(u)	(%)	df	SD	F	Ρ
														9	1.023	4.233	0.001*
Question: I think it is the environmentally right choice to make	the environ	nmentall	y right che	oice to m ²		ases fron	purchases from a retail floral provider based on their environmental practices	loral pro	wider base	ed on th	eir enviroı	nmental	practices.				
nouce 1. Julouguy af	aguu 274 18.1	44	26.8	41	22.2	32	16.3	ъ	18.5	0	0.0	14	18.2				
Choice 2: Agree 56	568 375	56	34 1	81	43.8	113	577	21	44 4	4	44 4	25	32.5				
Choice 3: Neither agree nor disagree	ee nor disa																
44 Choice 4: Disagree	444 29.3	38	23.2	45 5	24.3	44	22.4	×	29.6	4	44.4	27	35.1				
	159 10.5	20	12.2	12	6.5	6	3.1	2	7.4	1	11.1	6	7.8				
Choice 5: Strongly disagree 69	isagree 69 4.6	6	3.7	6	3.2	l	0.5	0	0.0	0	0.0	ъ	6.5				
Question: Overall, I would be more willing to make purchases environmentally friendly.	/ould be me ndly.	ore willi	ng to make	e purchase	es from a	retail flo.	from a retail floral provider who is	er who i	s environ	mentally	environmentally friendly than from	han from	0 1.1.55 2.24: 1 a retail floral provider who is not	6 oral prov	1.135 vider who	2.243 is not	0.03/*
Choice 1: Strongly agree 387	agree 387 25.6	44	26.8	56	30.3	52	26.5	4	14.8	7	22.2	18	23.4				
Choice 2: Agree		ĩ		Ś	1 (00		ç		,		ć					
528 54.9 Choice 3: Neither agree nor disagree	528 54.9 Pree nor disa	oree.	52.9	70	6. <i>5</i> 5	88	44.9	13	48.1	S	33.3	52	6.62				
3.	342 22.6	38	23.2	47	25.4	43	21.9	\sim	25.9	33	33.3	25	32.5				
Choice 4: Disagree	161 10.6	17	104	21	59	6	46	_	3.7	C	0.0	~	3.9				
Choice 5: Strongly disagree	agree	;						• •		, ,	,) (
~ `	96 6.3	Π	0.7	×	4.3	4	2.0	7	4.7	T	1.11	×	10.4	Ś	1 185	2 234	0.037*
Question: All other considerations held the same, I would be m retail floral provider who disposes of floral waste in municipal	onsideration who dispo	is held th ses of flo	he same, I oral waste i	would be in municif	more willi	lling to r ls.	nake purc	hases frc	om a retai	l floral p	rovider wl	ho recyc	ore willing to make purchases from a retail floral provider who recycles flower waste through composting than a landfills.	waste thi	rough coi	mposting	than a
Choice 1: Strongly agree 465	agree 465 30.7	д 4	32.9	60	32.4	56	28.6	ý	22.22	~	22.2	21	27.3				
Choice 2: Agree		1		t ı		ç	t	ç		-	-	2					
488 52.2 Choice 3: Neither agree nor disagree	488 52.2 Ieree nor disas	55 eree	57.5	\c	30.8	9 5	4.7.4	10	5/.0	-	11.1	17	5.12				
56	297 19.6	29	17.7	42	22.7	34	17.3	9	22.2	4	44.4	21	27.3				
Choice 4: Disagree 15	158 10.4	16	9.8	16	8.6	6	4.6	2	7.4	1	11.1	ý	7.8				
Choice 5: Strongly disagree	disagree	12	7.3	10	л 4	4	2.0	0	11.1	Ţ	1.11	8	10.4				

	White,	te/	Black/,	Black/African	Hispanic/	nic/	Asian/Asian	Asian	American Indian/	ican an∕	Native Hawaiian,	ive iian/	Another	ther				
F	Cauc	Caucasian	Ame	American	Latino	ou	American	rican	Alaska Native	i	Pacific Islander	[slander	race		JF	6	F	F
Nace	(II)	(0/_)	(II)	(%)	(II)	(0/)	(II)	(0/)	(III)	(0/_)	(II)	(0/)	(II)	(0/)	a		4	7
															6	1.498	7.984	0.001^{*}
Question: Please indicate how much more, if any, you would be willing to pay for a flower arrangement made by a retail floral provider who recycles flower waste through composting rather than disposing of floral waste in a municipal landfill.	indicate her than	how muc disposing	h more, 5 of flora	if any, yo l waste in	u would a munici	be willing ipal landf	g to pay : ill.	for a flow	er arrang	gement m	ade by a	retail floi	cal provic	ler who r	scycles flo	ower was	ste throug	£.
Choice 1: 0%																		
	345	22.8	22	13.4	17	9.2	26	13.3	б	11.1	1	11.1	22	28.6				
Choice 2: 5%	310	30 E	36	0,00	34	18.4	27	0.81	-	2	ç	ίιί	ſć	786				
Choice 3: 10%	ore	C.U2	00	0.22	н С	1.01	10	10.7	٦	0.7	٩	7.77	77	70.0				
	446	29.5	41	25.0	55	29.7	50	25.5	10	37.0	2	22.2	15	19.5				
Choice 4: 15%					0	ç	c T		t		(t	r o				
Choice 5: 20%	167	11.0	25	15.2	40	21.6	43	21.9		25.9	7	22.2	2	9.1				
	137	9.0	19	11.6	22	11.9	23	11.7	33	11.1	I	11.1	9	7.8				
Choice 6: 25% or more	: more	c t	2		t	Ċ	ţ	t	(-		ι	1				
	109	7.7	17	12.8	17	7.7	17	8./	ŝ	1.11	I	1.11	ი	c.0	Y	1 1 E J	0 77E	*1100
Question: All other considerations held the same, I would be more willing to make purchases from a retail floral provider who sells flowers sourced from local farmers and nurseries (farms and nurseries within 100 miles of the retail floral provider).	s and nu	derations rseries wit	held the thin 100	same, I w miles of 1	vould be the retail	more wil floral prc	ling to n wider).	iake purct	lases froi	m a retail	floral pr	ovider wł	io sells fl	owers sou	rced fro	m local f	armers an	q.
CIIORC 1. JUDILEIY agree 439	1y agruu 439	29.0	33	20.1	34	18.4	42	21.4	4	14.8	I	11.1	14	18.2				
Choice 2: Agree																		
	575	38.0	63	38.4	77	41.6	92	46.9	11	40.7	9	66.7	24	31.2				
Choice 3: Neither agree nor disagree $237 157$	r agree r 237	15.7	cc 30	23.8	ц ц	28.6	40	25.0	Г	25 Q	_		12	27.3				
Choice 4: Disagree		1.01	6	0.07	2	0.04	ì	0.07			-	T.T.T	17	2				
0	155	10.2	17	10.4	13	7.0	10	5.1	б	11.1	0	0.0	7	9.1				
Choice 5: Strongly disagree	ly disagr																	
	108	7.1	12	7.3	×	4.3	ю	1.5	0	7.4	Γ	11.1	11	14.3	v	1 468	3 100	3 100 0 004*
Question: Please indicate how much more, if any, you would be willing to pay for a flower arrangement made using locally grown flowers (grown within 100 miles of the retail	indicate	how muc	h more,	if any, yo	u would	be willin£	to pay 1	for a flow	er arrang	gement m.	ade usin;	g locally £	grown fle	wers (grc	wn with	in 100 m	o. 1.00 niles of th	e retail
floral provider). Choice 1: 0%																		
	271	17.9	26	15.9	17	9.2	27	13.8	4	14.8	I	11.1	24	31.2				
Choice 2: 5%	13 12 12	1.22	66	177	32	17.3	44	2.2.4	~				16	20.8				
Choice 3: 10%			ì)		•							
	447	29.5	41	25.0	58	31.4	54	27.6	10	37.0	ŝ	33.3	17	22.1				
CII01CC 4: 13%	192	12.7	30	18.3	44	23.8	37	18.9	4	14.8	2	22.2	8	10.4				
Choice 5: 20%				V O L	, ,	0 [1	5	7 O I	u	и 0 Г	ſ		~	с и				
	cet	10.2	1/	10.4	77	11.9	71	10./	0	c.01	7	7.77	4	7.0				
																(Contina	(Continued on next page)	xt page)

Table 5. (Continued)

	White/ Caucasian	te/ asian	Black/ Ame	Black/African American	Hispanic/ Latino	nic/ no	Asian/Asian American	/Asian rican	America Indian Alaska Na	American Indian/ Alaska Native	Hawaiian Pacific Islan	Native Hawaiian/ Pacific Islander	Another race	ther ce				
Race	(u)	(%)	(u)	(%)	(u)	(%)	(u)	(%)	(u)	(%)	(u)	(%)	(u)	(%)	df	SD	F	Ρ
Choice 6: 25% or more 114	r more 114	7.5	21	12.8	12	6.5	13	6.6	-	3.7	0	0.0	∞	10.4	~	בסב		
Question: Please indicate how much more, if any, you would be using no synthetic fertilizers or pesticides).	indicate etic fertil	how muc izers or p	ch more, vesticides	if any, you .).	u would		g to pay	for a flow	ver arran _}	gement n	nade usir	ıg organic	ally grov	m flowers	vers	rown an	d proces	v.v. ssed
	473	31.2	28	17.1	21	11.4	43	21.9	4	14.8	1	11.1	28	36.4				
Choice 2: 5%	319	21.1	26	15.9	34	18.4	39	19.9	5	7.4	7	22.2	14	18.2				
Choice 3: 10%	337	22.3	43	26.2	63	34.1	53	27.0	11	40.7	ю	33.3	19	24.7				
Choice 4: 15%	170	11.2	29	17.7	34	18.4	36	18.4	വ	18.5	7	22.2		9.1				
Choice 5: 20%	136	9.0	20	12.2	19	10.3	13	6.6	3	11.1	1	11.1	3	3.9				
Choice 6: 25% or more 79	r more 79	5.2	18	11.0	14	7.6	12	6.1	7	7.4	0	0.0	6	7.8				
Question: Please indicate how much more, if any, you would be willing to pay for a flower arrangement made using fair trade-sourced flowers (fair trade can be defined as trade between companies in developed countries and producers in developing countries in which fair prices are paid to the producers). Choice 1: 0%	indicate anies in 6	how muc łeveloped	ch more, l countri	if any, you es and pro	u would ducers ir	be willin; 1 develop	g to pay ing cour	for a flow utries in w	ver arran; vhich fair	gement n • prices ar	nade usir e paid tc	ng fair trac the prod	le-source ucers).	d flowers	(fair trade	can be e	defined a	as tra
Choice J. 602	466	30.8	31	18.9	21	11.4	36	18.4	6	11.1	0	0.0	24	31.2				
	353	23.3	31	18.9	44	23.8	47	24.0	7	7.4	1	11.11	20	26.0				
Choice 5: 10%	351	23.2	37	22.6	65	35.1	59	30.1	12	44.4	4	44.4	17	22.1				
Choice 4: 15%	175	11.6	33	20.1	23	12.4	31	15.8	8	29.6	4	44.4	×	10.4				
	105	6.9	17	10.4	23	12.4	15	7.7	l	3.7	0	0.0	ъ С	6.5				
Choice 6: 25% or more 64	r more 64	4.2	15	9.1	6	4.9	8	4.1	1	3.7	0	0.0	б	3.9				4 4 4
Question: Please indicate how much more, if any, you would be instead of single-use products.	indicate le-use pro	how muc oducts.	ch more,	if any, yoı	u would		g to pay	for a flow	ver arran}	gement n	nade usir	ng sustaina	ıble, recy	cled, upcy	6 1.460 7.669 0.00 willing to pay for a flower arrangement made using sustainable, recycled, upcycled, and/or reusable materials	1.460 I∕or reusa	7.669 0.001* ıble materials	0.00 erials
	375	24.8	28	17.1	19	10.3	31	15.8	7	7.4	0	0.0	29	37.7				
Choice 2: 5%	353	23.3	33	20.1	35	18.9	39	19.9	4	14.8	7	22.2	15	19.5				

	White	ta /	Rhet /	Rlack / African	Hismic /	/	Acian /Acian	Acian	American Tadian /	ican /	Native	ive in /	Another	har 1				
	Caucasian	asian	Ame	American	Latino	no	American	ican	Alaska Native	i	Pacific Islander	slander	race	9				
Race	(u)	(%)	(u)	(%)	(u)	(%)	(u)	(%)	(u)	(%)	(u)	(%)	(u)	(%)	df	SD	F	Ρ
Choice 3: 10%	370	0 F 0	46	78.0	67	36.7	yy Y	22.7	×	20 K	4	44.4	10	2 T 2				
Choice 4: 15%	110	0.04	OF	0.07	6	7.00	8	1.00	0	0.74	H	1.11	17	C. /4				
Choice 5: 20%	194	12.8	16	9.8	33	17.8	27	13.8	6	22.2	ŝ	33.3	ഹ	6.5				
	133	8.8	21	12.8	19	10.3	18	9.2	വ	18.5	0	0.0	3	3.9				
Choice 6: 25% or more 80	r more 80	5.3	20	12.2	12	6.5	15	7.7	7	7.4	0	0.0	4	5.2				
Question: When deciding where to make a floral purchase, whi	deciding	where to	make a	floral purc	hase, wł		e followir	ng aspects	of susta	inability c	do you ce	onsider to	be the 1	most imp	6 portant fo	6 1.286 2.612 0.016 ch of the following aspects of sustainability do you consider to be the most important for a retail floral provider	2.612 floral pro	0.016* ovider
to practice? Choice 1: Flowers used in floral designs are sustainably grown	rs used in	floral de	signs are	sustainabl	V grown	and sourced	peo.											
	445	29.4	° 47	28.7	45	24.3	51	26.0	4	25.9	4	44.4	17	22.1				
Choice 2: Materials (other than flowers) used in floral design are sustainable, recyclable, upcyclable, and reusable	ials (othe	r than flo	wers) us	ed in floral	l design	are sustaii	nable, rec	syclable, t	pcyclabl	e, and reı	ısable							
н 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	465	30.7	51 £	31.1	70		77	39.3	8	29.6	3	33.3	16	20.8				
Unoice 5: Floral provider is as energy-efficient as possible (uses 17 0 17 7 41	provider 176	11 6	gy-emcie	ent as possi 177	ible (use 41		emcient l 37	energy-emcient light builds,	s, cooler, 7	, electric vehicles)	venicies)	2.22	12	15.6				
Choice 4: None of the above is important to me when making	of the ab	ove is im	ortant 1	-o me whei	n makine		a floral nurchase			2	1	1	1	0.01				
	300	19.8	26	15.9	20		le 16	8.2	6	11.1	0	0.0	22	28.6				
Choice 5: I do not make floral purchases	ot make	floral pur-	chases															
	128	8.5	11	6.7	6	4.9	15	7.7	2	7.4	0	0.0	10	13.0	``			
0 1.015 5.173 Question: If an environmentally friendly certification existed for retail floral providers, then I would trust a retail floral provider's environmental quality standards when purchasing from an environmentally friendly-certified retail floral provider.	environme m an env	entally fri ironment	endly cer allv frien	rtification 6 dly-certifie	existed fo d retail i	or retail fl Joral prov	loral prov vider.	iders, the	n I woul	ld trust a	retail floi	ral provid	er's envii	ronmente	6 al quality	1.015 standards	-	0.004*
Choice 1: Strongly agree	gly agree		•			4												
	224	14.8	30	18.3	40	21.6	33	16.8	7	7.4	ŝ	33.3	10	13.0				
Choice 2: Agree	602	39.8	63	38.4	76	41.1	88	44.9	14	51.9	2	22.2	23	29.9				
Choice 3: Neither agree nor disagree	er agree n	tor disagn									I							
	$\frac{1}{441}$	29.1	45	27.4	50	27.0	61	31.1	4	25.9	7	22.2	30	39.0				
Choice 4: Disagree	ee 179	11.8	17	10.4	16	8.6	11	5.6	7	7.4	7	22.2	6	11.7				
Choice 5: Strongly disagree	gly disagre	se																
	68	4.5	6	5.5	ŝ	1.6	ю	1.5	7	7.4	0	0.0	ഹ	6.5	N			*100.0
Question: Please indicate how much more, if any, you would be willing to pay for flowers and floral designs from an environmentally friendly-certified retail floral provider if	indicate	how muc	h more,	if any, you	1 would	be willing	to pay f	or flowers	s and floi	ral design.	s from aı	1 environ:	mentally	friendly-	o certified 1	retail flora	10.094 Il provide	r if
such a certification existed. Choice 1: 0%	ttion exist	ted.				,				1								
	392	25.9	23	14.0	18	9.7	30	15.3	2	7.4	0	0.0	23	29.9				
	343	22.7	37	22.6	38	20.5	46	23.5	4	14.8	1	11.1	25	32.5				
																(,	

(Continued on next page)

Table 5. (Continued)

Table 5. (Continued)	nned)																	
	White/ Caucasian	te/ ısian	Black/African American	African 'ican	Hispanic, Latino	nic/ no	Asian/Asian American	sian/Asian American	American Indian/ Alaska Native	ican an/ Native	Native Hawaiian/ Pacific Islander	tive iian/ slander	Another race	ther ce				
Race	(u)	(%)	(u)	(%)	(u)	(%)	(u)	(%)	(u)	(%)	(u)	(%)	(u)	(%)	df S	SD	F	Ρ
Choice 3: 10%	406	26.8	45 7	2.7.4	52	28.1	55	28.1	×	29.6	4	44 4	14	18.2				
Choice 4: 15%	182		e c		ç ç		22 Y	с 101 101 101	y v		4 0	22 2		13.0				
Choice 5: 20%	C01	1.21		0.71	4 C F C	1.44		C.04	C	7.77 7.77	- c	0.00 F F F		0.01				
130 Choice 6: 25% or more	130 r more	8.6	19	11.6	23	12.4	13	0.0	4	14.8	-	1.11	7	2.6				
	60	4.0	16	9.8	12	6.5	9	3.1	б	11.1	0	0.0	3	3.9	ر بر	1 250	5 801 O	*100.0
Question: How often do you make floral purchases' Flower purchases can be defined as cut flowers and indoor potted plants purchased at retail flower providers and separate from nurserv/sreenhouse purchases.	often do j greenhou	you make se purcha	floral pu ses.	urchases?	Flower p	urchases	can be d	efined as c	ut flowe	rs and in	door pot	ted plants	s purchas	ed at reta	l flower pro	oviders a	und separ	ate
Choice 1: Once per week	per week																	
	76	5.0	13	7.9	17	9.2	14	7.1	ю	11.1	0	0.0	4	5.2				
Choice 2: Once per month	per mont	h ۱۸۸	30	18.3	50	0.7.0	43	916	ý	<i>с сс</i>	0	0.0	=	14.2				
Choice 3: Three to four times per year	to four ti	mes per y	rear		2	2	2		þ	1	>		•					
	526	34.7	59	36.0	70	37.8	67	34.2	10	37.0	4	44.4	25	32.5				
Choice 4: Once or twice per year 358 23.6	or twice J 358	per year 23.6	32	19.5	29	15.7	37	18.9	വ	18.5	ю	33.3	15	19.5				
Choice 5: Once or twice every few year	or twice (wery few	year															
	210	13.9	20	12.2	15	8.1	20	10.2	l	3.7	7	22.2	15	19.5				
Choice 6: Never	60	וא	OL.	וא	~	, ,	u L		ç	۲ ۲	C	00	٢	1.0				
- - -	7	1.0	10	1.0	+ -	4 4 1	C1 -	·· · ·	۰ ۱	ť		· · ·		T*C -	6	0.531		0.002*
Question: For what reason do you most often make noral purchases. Flower purchases can be defined as cut nowers and indoor potted plants purchased at retail nower providers and separate from nursery/greenhouse purchases.	nar reasoi separate f	rom nurse	most off ery/gree:	en make : nhouse pu	noral pur urchases.	cnases: r	lower pu	urcnases ca	n be der	unea as c	ut nower	s and ind	oor pott	ed plants J	ourcnased at	retall 1	lower	
Choice 1: I most often purchase flowers for myself	t often pu 337	rrchase flo 22 2	wers for 47	myself 25.6	46	74.0	74	122	9	c	_		10	13.0				
Choice 2: I most often purchase flowers as a gift for others	t often pu	rchase flo	wers as (a gift for	others		i)		•		1					
	1062	70.1	105	64.0	127	68.6	151	77.0	16	59.3	9	66.7	56	72.7				
Choice 3: I do not make floral purchases 115 7.6 17	iot make 1 115	floral pure 7.6	chases 17	10.4	12	6.5	21	10.7	5	18.5	2	22.2	11	14.3				

you consider to be the most important for a retail floral provider to practice?", the post hoc analysis (LSD) indicated that there was a difference in the way respondents who identified as another race answered the question when compared with all other racial groups. The most frequently selected answer choice for the question for all racial groups, except those identifying as another race, was "Materials (other than flowers) used in floral design are sustainable, recyclable, upcyclable, and reusable." The most frequently selected answer choice for those who were from another race was "None of the above is important to me when making floral purchases."

ANALYSIS BASED ON ANNUAL HOUSE-HOLD INCOME LEVEL. The ANOVAS found significant differences in the way participants answered eight of the survey questions based on their annual household income (Table 6). The data indicated that all differences were among respondents with an income of \$200,000 or more when compared with other income groups. In all instances, those with an annual household income more than \$200,000 indicated being less willing overall to make purchases from floral providers with sustainable attributes (Table 6). However, although those with an annual household income more than \$200,000 indicated less interest in making purchases from floral providers based on sustainable attributes, it did not translate to less willingness to pay a premium for sustainable attributes. No significant differences were found in the way respondents answered the questions regarding how much more, if any, they would be willing to pay for sustainable attributes. Past research found conflicting results regarding the annual household income level and consumers' willingness to purchase sustainable products. It was found that the annual household income does not affect organic food purchases, whereas other research has suggested that consumers earning higher incomes were more likely to have purchased locally produced foods and to have purchased foods produced with reduced pesticides efforts (Govindasamy and Italia 1998; Jolly 1991; Misra et al. 1991; Ross et al. 2000). Additionally, research showed income has a weak relationship with the level of sustainability efforts (Alkadry et al. 2019).

When asked, "How often do you make floral purchases?" (flower purchases

can be defined as cut flowers and indoor potted plants purchased at retail flower providers and separate from nursery/ greenhouse purchases), the post hoc analysis (LSD) indicated there was a difference in the way respondents with an income of \$75,000 or more answered the question when compared with those with an income less than \$75,000. The results showed that those with an income more than \$75,000 make floral purchases more frequently than those with an income less than \$75,000 (Table 6). Regardless of the annual household income, respondents were the most willing to pay a premium of 10% or more for flowers from a floral provider who uses locally sourced flowers and composts floral waste.

Conclusions

The methods that retail floral providers use to source floral material, create floral designs, market, and brand their companies are increasingly becoming important considerations when trying to promote their services toward environmentally conscious consumers and creating a valuable repeat customer base. Based on the findings of this study, floral providers that currently incorporate any sustainable attributes into their business models should strongly consider using this in promotion and advertisement to set themselves apart from the competition and make consumers aware of their environmental efforts. From the list of sustainable attributes covered in this study, respondents indicated the use of locally sourced flowers and the composting of floral waste as being the two sustainable attributes that could be incorporated into the business model of floral providers that have the most perceived value to consumers.

The fact that respondents placed the most value on the use of locally sourced flowers indicates a need to further research this attribute to understand what locally sourced flowers means more fully to the United States population, as well as the possible need for the expansion of the local cut flower-growing industry into smaller regional pockets.

When analyzing survey question responses based on the demographics of participants, it was found that males indicated a stronger willingness to shop at a floral provider based on several of the environmental statements when compared with other genders. This indicates that floral providers who has incorporated these specific environmental attributes for which males respond more positively should consider promoting their businesses in areas where males are likely to encounter them. Additionally, although males make more purchases as gifts, it was found that females purchase more flowers for themselves. These findings support past research that also found that females are more willing to purchase environmentally sustainable products (Laroche et al. 2001).

Respondents 34 years of age or younger were the most interested in and willing to pay a premium for sustainable attributes. As the age of the participants increased, their overall willingness to pay for environmentally friendly practices tended to decrease. Respondents 55 years of age or older expressed the least willingness to pay a premium for sustainable attributes, with respondents 65 years of age or older being the least willing to pay a premium for environmentally friendly attributes. Respondents 65 years of age or older also indicated they made fewer floral purchases within 1 year than all other age groups. This supports past research that also found that younger consumers have a greater interest in purchasing environmentally friendly products (Gabellini and Scaramuzzi 2022). These findings indicated that floral providers incorporating sustainable attributes in their business model should focus their promotional efforts on individuals younger than age 55 years, and especially those younger than age 35 years.

There was little disagreement among participants when comparing survey answers based on education. Overall, respondents with college experience indicated a greater willingness to make purchases from floral providers with sustainable attributes.

Because of the small sample size of several of the racial demographic groups, generalizations regarding racial groups could change with a larger, more racially diverse sample.

When analyzing responses based on the annual household income level, it was found that participants with an income of \$200,000 or more indicated less agreement with several of the environmentally friendly attribute questions. However, participants with an income \$200,000 or more were still willing to

		815 \$1	Between \$15,000	Bet) \$30	Between \$30,000	Betr \$50,	Between \$50,000	Between \$75,000	reen 000	Betr \$100	Between \$100,000	\$150	Between \$150,000						
Annual Le	Less than \$15,000	\$25	and \$29,999	aı \$49	and \$49,999	ar \$74.	and \$74,999	and \$99,999	ы 999	а \$149	and \$149,999	a \$199	and \$199,999	\$20(or 1	\$200,000 or more				
income (n)	(%) ((u)	(%)	(u)	(%)	(u)	(%)	(u)	(%)	(u)	(%)	(u)	(%)	(u)	(%)	df	SD	н	P
																~	1.023	2.788	0.007*
Question: I think it is the environmentally right choice to make	nvironmeı	itally ri	ght choic	ce to ma		hases fr	purchases from a retail floral provider based on their environmental practices	ail flora	l provid	er base(d on the	ir envir	onmenta	ıl pract	ices.				
CITOLC 1. JUDIEJ AGLC 38	23.5	45	17.9	73	20.6	80	17.6	53	15.8	71	19.7	27	21.1	23	18.1				
Choice 2: Agree																			
60 Choice 2: Maithan arma and	37.0	100	39.7	139	39.3	197	43.4	143	42.7	139	38.6	47	36.7	34	26.8				
CITOLE 3. INCLUE AGLECTION INSAULCE 52 32.1	32.1	73	29.0	106	29.9	128	28.2	94	28.1	93	25.8	29	22.7	35	27.6				
Choice 4: Disagree							1				1				1				
 	4.9	22	8.7	28	7.9	33	7.3	33	9.9	38	10.6	18	14.1	26	20.5				
Choice 5: Strongly disagree 4	2.5	12	4.8	8	2.3	16	3.5	12	3.6	19	5.3	\sim	5.5	6	7.1	t			
Question: Overall, I would be more willing to make purchases from environmentally friendly. Choice 1: Strongly agree	be more v	villing 1	to make J	purchas		a retail f	floral pro	wider w	rho is er	nvironr	ientally 1	friendly	than fro	om a re	retail floral provider who is environmentally friendly than from a retail floral provider who is not	l provid	ler who	is not	
37	22.8	99	26.2	100	28.2	118	26.0	83	24.8	66	27.5	36	28.1	24	18.9				
Choice 2: Agree		0	ר בי	, c c c	t c		н С		0 1 0	, c c r	, , ,	01	ر د د	Ţ	7 7 6				
	1.2¢ .,	44 4	ç. /ç	125	54./	c/1	c.0¢	170	0.00	¢71	54.2	40	ç.1¢	1 4	54.0				
Choice 5: Neither agree nor disagree 59 36.4	c disagree 36.4	58	23.0	83	23.4	101	22.2	77	23.0	77	21.4	27	21.1	23	18.1				
Choice 4: Disagree		C F	t	Ģ		ç	Ċ	Ģ	ç	Ģ		ç		2					
8 Choine E. Chinadu dimensio	4.9	18	7.1	28	7.9	39	8.6	38	11.3	38	10.6	13	10.2	21	16.5				
Choice a: attongly disagree 6	3.7	16	6.3	20	5.6	21	4.6	17	5.1	23	6.4	12	9.4	15	11.8	٢	1 185	2 501	0 015*
Question: All other considerations held the same, I would be m retail floral provider who disposes of floral waste in municipal	rations he. disposes o	ld the s f floral	ame, I w waste in	∕ould b€ municij	e more willi pal landfills	/illing to Ills.	ore willing to make purchases from landfills.	ourchase		a retail	floral pr	ovider	who rec	ycles flc	a retail floral provider who recycles flower waste through composting than	te throu	ugh com	2.201 iposting	g than a
CHUICE 1. JUULIBIY ABLCC		02	с I с	311	л С				0.00		200	U T	с лс о	, ,	076				
Tu Choice 2: Agree		~	c.1c	611	0.70	171	1.16	100	6.67	110	0.06	0 +	7.00	н С	0. 02				
52	32.1	80	31.7	130	36.7	154	33.9	118	35.2	118	32.8	41	32.0	30	23.6				
Choice 3: Neither agree nor disagree 53 32.7	t disagree 32.7	56	22.2	66	18.6	93	20.5	64	19.1	61	16.9	15	11.7	25	19.7				
Choice 4: Disagree	У Ц	01	น โ	00	У Ц	v v	۲ 0	7		74	9 C L	ŗ	0.01	ć	2 7 1				
Choice 5: Strongly disagree		1	· · /	01	0.0	F		F C	1.01	P	0.71	F T	10.7	4	0.11				
	4.9	18	7.1	23	6.5	22	4.8	19	5.7	25	6.9	13	10.2	16	12.6				

L5,0	\$29 (n) (n) (n) n n 100 71 71 71 71 71 71 71 71 71 71 71 71 71 71 71 73 13 23 13 23 13 23 13 23 14 57 57	\$29,999 n) (%) ne same, I wo	\$49,999	000		000		and	and	and	and	ч	0070	\$200,000				
Question: All other considerations hel nurseries (farms and nurseries withi Choice 1: Strongly agree 33 20.4 Choice 2: Agree 33 20.4 Choice 2: Neither agree nor disagree 52 32.1 Choice 4: Disagree	n 100 n 71 77 87 58 58 58 13 23 13 13 13 13 13 13 13 57	ume, I wc	(u)	(%)	(n) (%	(%)	(n) (%	666	\$149,999 (n) (%)	666 %	(%) (%)	666	or more (n) (%	10re (%)	df	SD	н	Ρ
Question: All other considerations hel nurseries (farms and nurseries within Choice 1: Strongly agree 33 20.4 Choice 2: Agree 57 35.2 Choice 3: Neither agree nor disagree 52 32.1 Choice 4: Disagree	n 100 rr 71 71 87 58 58 13 23 13 13 13 13 13 13 13 13 57	ume, I wc	Ì						Ì				Ì				3 157	0.003*
33 57 52 dis	71 87 58 58 13 23 23 ld the sa srtilizers 57	THES OF H	ould be n re retail	more wi floral pr	lling to ovider).	make pı	urchase	s from a	ı retail f	loral prc	wider w	_r ho sells	flowers	sourced	from lc	ocal farr	b.19/ ners and	ч.
Choice 2: Agree 57 55.2 Choice 3: Neither agree nor diagree 52 32.1 Choice 4: Disagree	 71 87 58 58 13 13 23 14 the sa 14 the sa 157 	181	00		124	л0 г	84	רזכ	67	ς Ψς	53	75.0	36	0,00				
57 35.2 Choice 3: Neither agree nor disagree 52 32.1 Choice 4: Disagree	87 58 13 13 23 23 Id the sa strilizers	7.07	0			C. 72	F O	1.02	6	7.F7	70	0.07	07	0.77				
Choice 3: Neutrer agree for usagree 52 32.1 Choice 4: Disagree	58 13 23 ld the ^{sa} srtilizers	34.5	145	41.0	177	39.0	134	40.0	160	44.4	51	39.8	37	29.1				
	13 23 ld the s ^a rtilizers 57	23.0	64	18.1	86	18.9	57	17.0	42	11.7	22	17.2	26	20.5				
11 6.8	23 ld the <i>sa</i> rtilizers 57	5.2	27	7.6	41	9.0	37	11.0	40	11.1	14	10.9	22	17.3				
Choice 5: Strongly disagree 9 5.6	ld the sa rtilizers 57	9.1	20	5.6	16	3.5	23	6.9	31	8.6	6	7.0	14	11.0				
Question: All other considerations held the same, I would be more willing to make purchases from and processed using no synthetic fertilizers or pesticides).		ume, I wc or pestici	ould be a ides).	more wi	lling to	make pı	ırchase		retail f	loral prc	wider w	zho sells	organi	a retail floral provider who sells organically grown flowers (flowers grown	vn flowe	vers (flov	2.202 wers gro	- /70.0
Choice 1: Survigity agree 26 16.0		22.6	64	18.1	76	16.7	55	16.4	64	17.8	32	25.0	17	13.4				
Choice 2: Agree 51 31.5	71	28.2	132	37.3	158	34.8	118	35.2	125	34.7	40	31.3	37	29.1				
Choice 3: Neither agree nor disagree 65 40.1	85	33.7	119	33.6	161	35.5	105	31.3	116	32.2	36	28.1	37	29.1				
	26	10.3	25	7.1	35	7.7	44	[2]	ц. С	6.7	Ξ	8.6	23	18.1				
	13	5.2	14	4.0	24	5.3	13	3.9	20	5.6	6	7.0	13	10.2				
2 1.038 2.305 0.024 Question: All other considerations held the same, I would be more willing to make purchases from a retail floral provider who sells fair trade-sourced flowers (fair trade can be defined as trade between companies in developed comprise and moduces in developing comprise in which fair mices are bid to the moduces.)	ld the sa	tme, I wo	uld be a	more wi	lling to	make pi	irchase:	s from a	retail f. in whic	loral prc b fair ar	wider w	rho sells	fair tra	de-source	7 J d flowe	1.038 ers (fair	2.305 r trade ci	0.024* an be
Choice 1: Strongly agree	א חד מראי	n nndor	source of the second seco	ord nue	מתרכוס ד	וו מרארור	n gund	SULLIN		и пап	זררי מור	י לאות ור	nr br	ouucus).				
25 15.4	45	17.9	67	18.9	81	17.8	49	14.6	69	19.2	27	21.1	23	18.1				
Choice 2: Agree 59 36.4	81	32.1	130	36.7	165	36.3	126	37.6	148	41.1	49	38.3	31	24.4				
Choice 3: Neither agree nor disagree 61 37.7	93	36.9	111	31.4	154	33.9	113	33.7	89	24.7	26	20.3	31	24.4				
Choice 4: Disagree 10 6.2	26	10.3	31	8.8	36	7.9	38	11.3	33	9.2	17	13.3	31	24.4				
Choice 5: Strongly disagree 7 4.3	r	2.8	15	4.2	18	4.0	6	2.7	21	5.8	6	7.0	11	8.7				

		a S	Between \$15.000	Betr \$30	Between \$30.000	Between \$50,000	een 000	Between \$75,000	een 000	Between \$100.000	een 000	Between \$150,000	een 000						
Annual I	Less than \$15,000	· \$	and \$29,999	a1 \$49	and \$49,999	and \$74,999	р 666	and \$99,999	1 999	and \$149,999	4 999	and \$199,999	1 999	\$200,000 or more	000 ore				
	(%) (u)	(u)	(%)	(u)	(%)	(u)	(%)	(u)	(%)	(u)	(%)	(u)	(%)	(u)	(%)	df	SD	F	Ρ
7 1.143 3.144 (Question: All other considerations held the same, I would be more willing to make purchases from a retail floral provider who uses sustainable, recycled, upcycled, and/or	crations h	ield the	same, I 1	would be	more w	illing to	make pi	urchase	s from a	retail f	loral pro	wider w	ho uses	sustaina	ıble, recy	7 1 /cled, up	1.143 3 pcycled,	3.144 0 , and/or	0.003* r
reusable materials instead of single-use products. Single-use plastic products can be defined as items that are used once or for a short period of time before being thrown away.	l of single	e-use pr	oducts. S	ingle-use	e plastic J	products	s can be	defined	as item	s that a	re used	once or	for a sh	ort per	od of tir	me befoi	re being	thrown	
Choice 1: Strongly agree																			
	26 16.0) 58	23.0	96	27.1	115	25.3	79	23.6	94	26.1	30	23.4	32	25.2				
Choice 2: Agree 5	59 36.4	4 87	34.5	131	37.0	181	39.9	5115	34.3	133	36.9	49	38.3	29	22.8				
Choice 3: Neither agree nor disagree	or disagre											i							
	53 32.7	7 64	25.4	79	22.3	96	21.1	87	26.0	67	18.6	21	16.4	24	18.9				
Choice 4: Disagree 1	12 7.4	28	11.1	30	8.5	40	8.8	38	11.3	40	11.1	20	15.6	26	20.5				
Choice 5: Strongly disagree	1)																		
	12 7.4	15	6.0	18	5.1	22	4.8	16	4.8	26	7.2	8	6.3	16	12.6	r			*100
2 222 0.00 Question: How often do you make floral purchases? Flower purchases can be defined as cut flowers and indoor potted plants purchased at retail flower providers and separate	ou make	floral pı	ırchases?	Flower 1	ourchases	s can be	defined	as cut f	lowers a	nd inde	or pott	ed plan	s purch	ased at	retail flov	ver prov	viders ar	d separ	. uu 1 -
from nursery/greenhouse purchases.	e purchas	ics.		•									4			4		4	
Choice 1: Once per week																			
2	20 12.3	3 10	4.0	22	6.2	25	5.5	12	3.6	22	6.1	~	5.5	6	7.1				
Choice 2: Once per month																			
0	28 17.3	3 40	15.9	41	11.6	69	15.2	69	20.6	83	23.1	28	21.9	34	26.8				
Choice 3: Three to four times per year 22 20.4	imes per ye:	ear 1 66	147	811	22 2	160	27 J	120	и Т	124	27 J	У Ц	12.8	76	267				
Choice 4. Once or twice ner year	er vear				0.00		1	101	0.11	101	į	8	0.01	2	7.00				
CHOICE T. CHICL OF LWICE F	per year 32 19.8	3 55	21.8	67	27.4	103	22.7	71	21.2	75	20.8	21	16.4	25	19.7				
Choice 5: Once or twice every few years	very few y	/ears																	
2	27 16.7	7 51	20.2	54	15.3	59	13.0	34	10.1	33	9.2	15	11.7	10	7.9				
Choice 6: Never																			
2	22 13.6	ś 30	11.9	22	6.2	29	6.4	10	3.0	13	3.6	1	0.8	3	2.4				
* Statistically significant at $P \le 0.05$ df = degrees of freedom.) 5.																		

Table 6. (Continued)

pay the same premium levels for environmentally friendly attributes compared to those with other income levels and even slightly more in some instances. In general, all income groups were willing to pay at least 10% or more for sustainable attributes.

Because floral providers may not be able to differentiate certain demographic groups from others, efforts should be made by retail floral providers who have implemented sustainable attributes within their businesses to inform an audience that is as broad and diverse as possible through as many promotional venues available, such as instore signage, statements posted to online websites and social media accounts, and information regarding the businesses-sustainable efforts sent to customer e-mail lists.

Because this was a preliminary study of consumers' stated preferences for hypothetical environmentally sustainable attributes that could be incorporated into retail floral providers' businesses, future studies investigating this topic using the revealed preferences methods are suggested to ascertain whether the participants' real-world purchasing decisions reflect the survey findings.

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