

# Perceptions of Environmentalism & the Use of Sustainable Floral Design Practices within the Floral Industry

## Final Report

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# Table of Contents

|  |    |
|--|----|
| Project Objective  | 3  |
| Background   | 3  |
| Participant Population   | 5  |
| Survey Instrument and Data Analysis  | 5  |
| Definition of Terms  | 5  |
| Key Findings   | 6  |
| Demographic Breakdown  | 7  |
| Participants' Job Position within Floral Industry  | 10 |
| Participants' Overall Perceptions of Environmentalism within the Floral Industry                         | 12 |
| Professional Florists use of Sustainable Floral Practices  | 14 |
| Barriers Preventing Adoption of Sustainable Practices  | 17 |
| Customer Interest in Sustainable Practices   | 19 |
| Participants' Interest in Sustainable Floral Certification   | 20 |
| Participants' Perceptions on the Current Sustainability Level of the Floral Industry Pre and Post Survey | 22 |
| Significant Differences Based on Demographics  | 22 |
| Significant Differences in Participants' Responses Based on Gender                                       | 23 |
| Significant Differences in Participants' Responses Based on Age  | 26 |
| Significant Differences in Participants' Responses Based on Highest Level of Education Received          | 27 |
| Significant Differences in Participants' Responses Based on Race/Ethnicity                               | 28 |
| Significant Differences in Participants' Responses Based on Annual Household Income                      | 30 |
| Conclusions  | 33 |
| Literature Cited   | 34 |

# Project Objective

The main purpose of this study was to **explore the perceptions of environmentalism and the use of sustainable floral design practices within the floral industry.**



## Background

The methods by which retail floral providers source floral material, create floral designs, market, and brand their company are increasingly becoming important considerations when trying to promote their services toward environmentally conscious consumers and in creating a valuable repeat customer base (Etheredge et al., 2023).

In recent years, there has been a push in the floral industry to become more sustainable and environmentally aware (Thursd, 2020). At the 2020 biennial Trend Summit, Conference, Symposium, and Workshop, where professionals within the floral industry meet to discuss the most current trend directions in floral design, the first statement on sustainability was crafted which states, in

part, a belief in the zero-waste hierarchy to rethink, redesign, reduce and repurpose (Thursd, 2020).

One method a company can use to differentiate itself from the rest and remain competitive is through branding. Branding has been shown to increase profit margins and help to stimulate demand in a saturated market (Collart et al., 2010). Branding can increase profits by raising awareness and increasing demand among consumers through promotion (Collart et al., 2010). Behe et al. (2013) concluded, “environmentally and socially responsible business differentiation strategies have become important components for the green industry’s competitive landscape,” after studying consumer preferences for local sustainable plant production characteristics, especially with the maturation of the industry.

## Background (cont.)

However, little has been done to investigate how those that work within the floral industry perceive sustainability, and how it relates to their business practices and branding strategies.

A study exploring retail flower shop owners' perceptions of environmentalism and their willingness to compost fresh cut floral waste produced at their retail floral establishments found most of the floral shop owners who participated in the study had a high level of environmental concern and would be 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 & Waliczek, 2020).

Additionally, a study investigating US consumers' perceptions of sustainable environmental attributes incorporated into a floral provider's business models found that most consumers 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 the use of locally sourced flowers was the most influential change a floral provider could make for increasing a consumer's willingness to purchase, followed closely by the disposal of floral waste through composting (Etheredge et al., 2023). Based on the findings in this study, floral providers who are currently incorporating 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. While consumers are indicating their willingness to pay a premium for environmentally sustainable floral products, little has been done to understand what, if anything,

professional floral designers are currently doing within their business to be more environmentally sustainable.

Green awards and certifications were originally created to help improve a company's environmental practices by establishing performance goals and implementing systems that help businesses better manage their environmental activities (Darnall & Sides, 2008; Lee et al., 2019). Green or environmentally sustainable awards and certifications can improve public relations between a business and the public, governments, trading partners, and employees (Font & Tribe, 2001). Green awards and certifications can help to spur such environmental improvements as saving water and energy, using eco-friendly purchasing policies, reducing waste, and better managing waste (Lee et al., 2019). One study investigating consumers' perceived value within the hotel industry on green and eco-friendly awards and certifications found green awards and certificates had a positive effect on consumers' perceived value and were positively linked to green behavioral intentions, including intention to revisit and intention to pay a premium (Lee et al., 2019). Additionally, a study investigating consumers' perceptions of luxury and utilitarian products with environmental claims found environmental claims enhanced consumers' perceptions of products especially when the content of the claim emphasizes global environmental benefits (Steinhart et al., 2013). Environmental claims may also improve consumers' perceptions of luxury items thus giving them a justification to indulge in such products (Steinhart et al., 2013). Currently, little to no research has been conducted to understand how receptive those who work within the floral industry would be to environmental certifications.





## Participant Population

A total of 453 professionals that work within the floriculture industry participated in the study. Respondents were drawn from an email list of individuals identified as being involved in the floriculture industry. The email list was compiled from available online sources focused on retail floral professionals. Additionally, co-sponsors of the project distributed the survey to their own email lists to further the reach of the survey within the floral industry. An invitation letter and link to an online survey was emailed to a list of professionals within the floral industry asking for their participation in the study. The link to the survey remained active for five weeks. Reminder emails were sent to each person on the email list weekly to encourage survey completion.

## Survey Instrument and Data Analysis

The survey instrument consisted of 36 questions and aimed to determine the perceptions of environmentalism and the use of sustainable floral design practices within the floral industry. The survey was created using past surveys which explored similar questions in other industries and modified to suit the needs of this study. The questions were reviewed, and feedback was given by a panel of industry experts. Data from the survey were analyzed using descriptive and frequency statistics. Comparisons were also made between demographic groups using analysis of variance and post hoc analysis.

## Definition of Terms

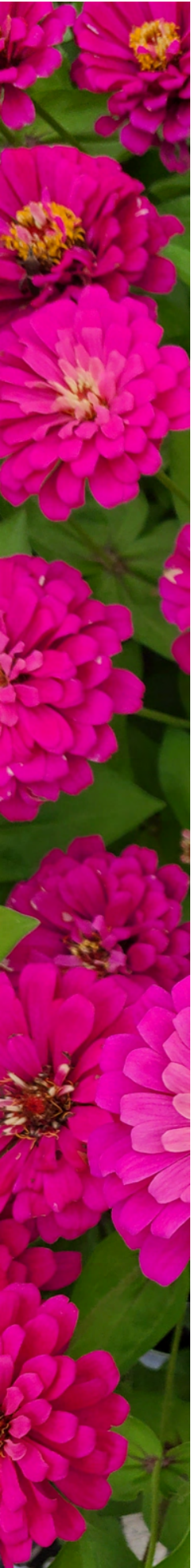
**Analysis of Variance:** Analysis of variance (ANOVA) is a statistical test used to assess the difference between the means of more than two groups.

**Statically Significant:** The result obtained is statistically significant and acceptable. Statistically significant at 0.05 indicates there is less than a 5% chance of the results varying upon retesting.

**Post Hoc Analysis (LSD):** Statistical analysis specified after a study has been concluded and the data collected. A post-hoc test is conducted to identify exactly which groups differ from each other.

# Key Findings

- 74.2% of participants agreed or strongly agreed that it's the environmentally right choice for professional workers within the floral industry to become more environmentally sustainable when creating floral designs.
- 80.8% of participants are aware of sustainable floral mechanics and methods that can be used to construct more sustainable floral arrangements.
- 71.3% of participants indicated the business they own or work for has implemented at least one sustainable practice within their business model.
- The three most common sustainable practices currently implemented in floral businesses are the recycling of cardboard material (60.5%), use of locally sourced flowers (57.4%), and the promotion of the return of containers for re-use (55.6%).
- Only 22.1% of participants said the business they own or work for promotes the use of sustainable practices to the public through advertising.
- 46.4% of respondents indicated there were barriers preventing them from adopting sustainable practices within their business.
- The two main barriers preventing adoption of sustainable floral design methods were indicated as being cost of sustainable products and the design being created requires non sustainable products to create with no sustainable alternatives.
- 72.2% of participants said their customers had not inquired about their sustainable practices.
- 40.2% of participants said they were interested or very interested in completing a certification in sustainable floristry.
- The average amount participants were willing to spend for a certification in sustainability was \$861.00.
- The top two main barriers participants endorsed preventing the completion of a certification program were the cost of the program and the time involved in completing the program.
- Females (79.9%) thought it was the environmentally right choice for professional workers within the floral industry to become more environmentally sustainable when creating floral designs at a higher rate when compared to males (67.1%).
- Females (91.6%) thought professional workers within the floral industry should learn about sustainable methods to create floral arrangements at a higher rate when compared to males (75.9%).
- Females (65.6%) indicated they attempt to construct floral arrangements using more environmentally sustainable mechanics and materials at a higher rate when compared to males (52.5%).
- Individuals with a bachelor's degree (42.3%) and Graduate degree (49.3%) rated themselves as being interested or very interested in participating in a sustainable certification program at higher rates when compared to the other educational levels.



# Demographic Breakdown

Overall response rates for certain demographic groups were low, making generalizing of some demographic groups to that demographic’s population as a whole not possible. Overall, participants were largely female (68.0%), Caucasian (76.6%), between the ages of 55-64 (33.3%), held a bachelor’s degree (37.1%), and resided within the United States (93.4%).



Table 1 & Figure 1. Frequency statistics comparing gender of participants. *n* = 453 people.

| Gender            | Sample Population (n) | Sample Population (%) |
|-------------------|-----------------------|-----------------------|
| Male              | 137                   | 30.2%                 |
| Female            | 308                   | 68.0%                 |
| Prefer not to say | 8                     | 1.8%                  |

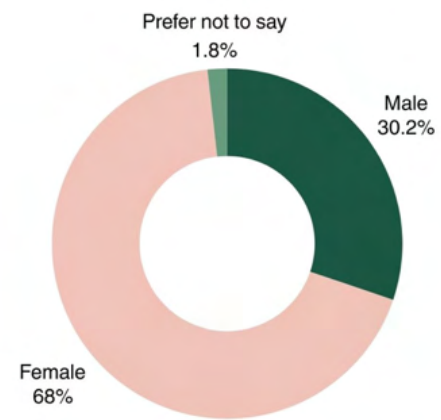
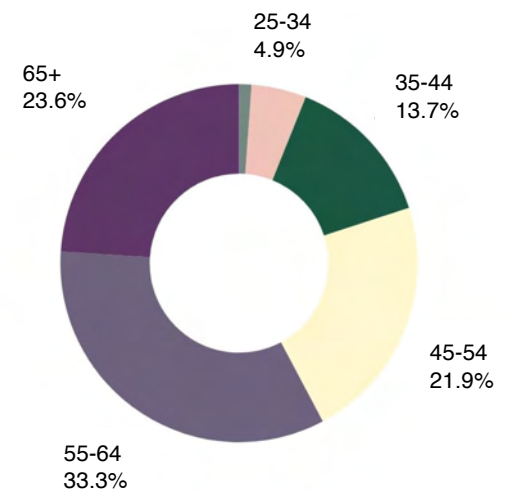


Table 2 & Figure 2. Frequency statistics comparing the age of participants. *n* = 453 people.

| Age             | Sample Population (n) | Sample Population (%) |
|-----------------|-----------------------|-----------------------|
| 18-24 years old | 5                     | 1.1%                  |
| 25-34 years old | 22                    | 4.9%                  |
| 35-44 years old | 62                    | 13.7%                 |
| 45-54 years old | 99                    | 21.9%                 |
| 55-64 years old | 151                   | 33.3%                 |
| 65+ years old   | 107                   | 23.6%                 |



# Demographic Breakdown

Table 3 & Figure 3. Frequency statistics comparing the race/ethnicity of participants. *n* = 453 people.

| Race/Ethnicity                          | Sample Population (n) | Sample Population (%) |
|---|-----------------------|-----------------------|
| White or Caucasian                      | 347                   | 76.6%                 |
| Black or African American               | 13                    | 2.9%                  |
| Hispanic or Latino                      | 17                    | 3.8%                  |
| American Indian/Native or Alaska Native | 5                     | 1.1%                  |
| Asian or Asian American                 | 24                    | 5.3%                  |
| Other                                   | 5                     | 1.1%                  |
| Prefer not to say                       | 40                    | 8.8%                  |

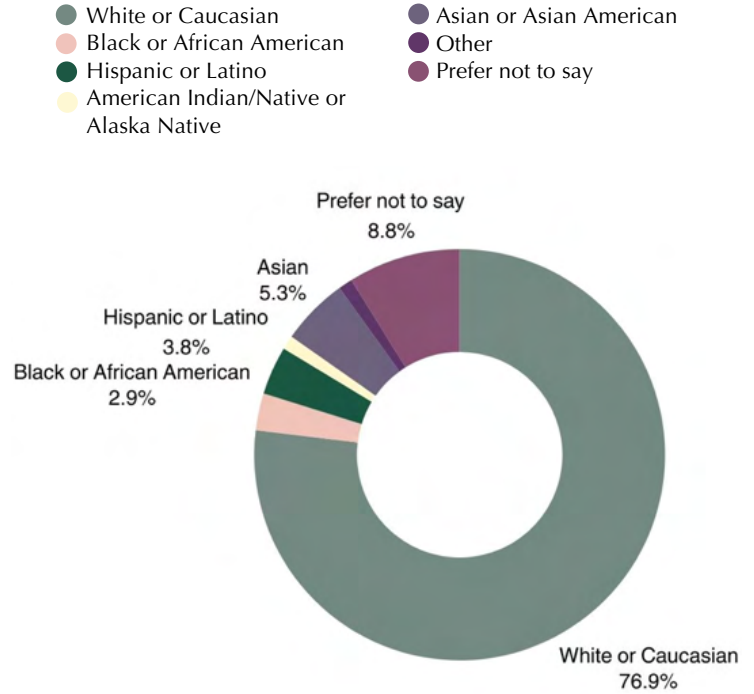
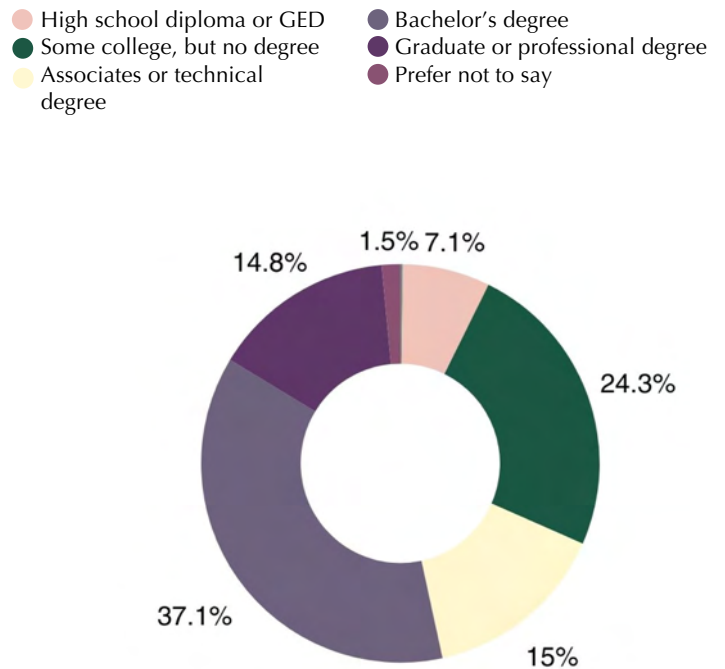


Table 4 & Figure 4. Frequency statistics comparing education level of participants. *n* = 453 people.

| Education Level                 | Sample Population (n) | Sample Population (%) |
|---------------------------------|-----------------------|-----------------------|
| Some high school or less        | 1                     | 0.2%                  |
| High school diploma or GED      | 32                    | 7.1%                  |
| Some college, but no degree     | 110                   | 24.3%                 |
| Associates or technical degree  | 68                    | 15.0%                 |
| Bachelor's degree               | 168                   | 37.1%                 |
| Graduate or professional degree | 67                    | 14.8%                 |
| Prefer not to say               | 7                     | 1.5%                  |





# Demographic Breakdown

Table 5 & Figure 5. Frequency statistics comparing annual household income of participants. *n* = 453 people.

| Annual Household Income | Sample Population (n) | Sample Population (%) |
|-------------------------|-----------------------|-----------------------|
| Less than \$25,000      | 15                    | 3.3%                  |
| \$25,000-\$49,999       | 53                    | 11.7%                 |
| \$50,000-\$74,999       | 59                    | 13.0%                 |
| \$75,000-\$99,999       | 48                    | 10.6%                 |
| \$100,000-\$149,999     | 93                    | 20.5%                 |
| \$150,000 or more       | 81                    | 17.9%                 |
| Prefer not to say       | 104                   | 23.0%                 |

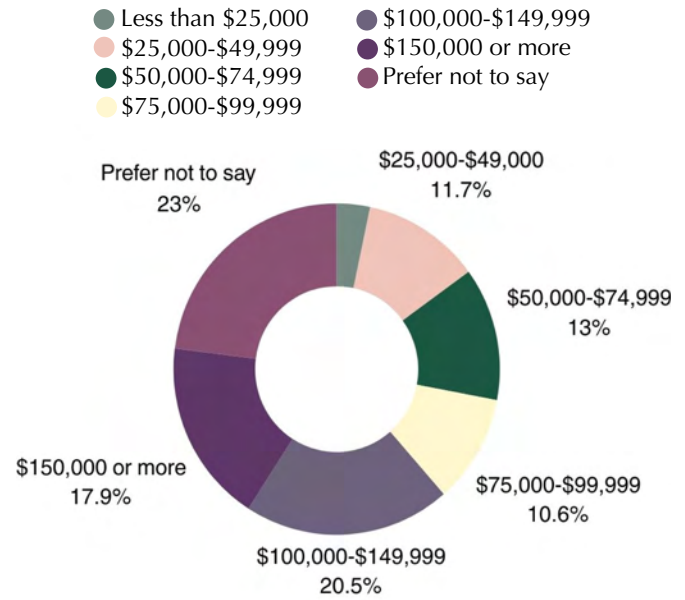
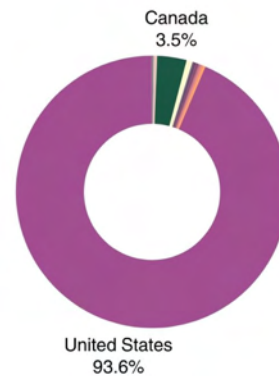
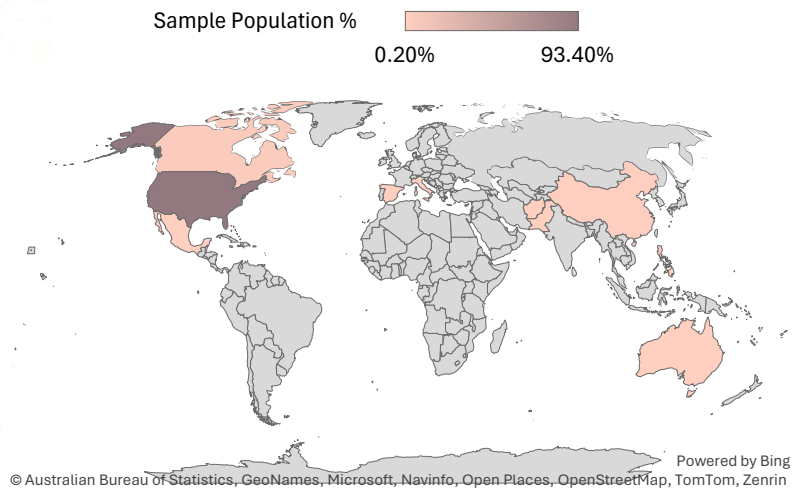


Table 6 & Figure 6. Frequency statistics comparing annual household income of participants. *n* = 453 people.

| Country                  | Sample Population (n) | Sample Population (%) |
|--------------------------|-----------------------|-----------------------|
| Afghanistan              | 1                     | 0.2%                  |
| Australia                | 2                     | 0.4%                  |
| Canada                   | 16                    | 3.5%                  |
| China                    | 3                     | 0.7%                  |
| Hong Kong (S.A.R.)       | 1                     | 0.2%                  |
| Italy                    | 1                     | 0.2%                  |
| Mexico                   | 2                     | 0.4%                  |
| Pakistan                 | 1                     | 0.2%                  |
| Philippines              | 1                     | 0.2%                  |
| Singapore                | 1                     | 0.2%                  |
| Spain                    | 1                     | 0.2%                  |
| United States of America | 423                   | 93.4%                 |





## Participants' Job Position within the Floral Industry

Overall, a majority of participants that completed the survey worked at traditional stand-alone retail floral shops (63.4%) and/or were the businesses owner (65.8%). The average amount of time participants have worked in the floriculture industry was 28.4 years.

Table 7 & Figure 7. Frequency statistics comparing type of job held within floriculture industry among participants. *n* = 453 people.

| Business Type   | Sample Population (n) | Sample Population (%) |
|---|-----------------------|-----------------------|
| Traditional stand-alone retail floral shop  | 287                   | 63.4%                 |
| Special events studio   | 91                    | 20.1%                 |
| Floral department within supermarket or large retail chain  | 9                     | 2.0%                  |
| Online business only  | 28                    | 6.2%                  |
| Freelance florist (independent contractor that does not own or operate a brick-and-mortar business) | 84                    | 18.5%                 |
| I do not operate/work for a floral business   | 14                    | 3.1%                  |
| Other   | 58                    | 12.8%                 |

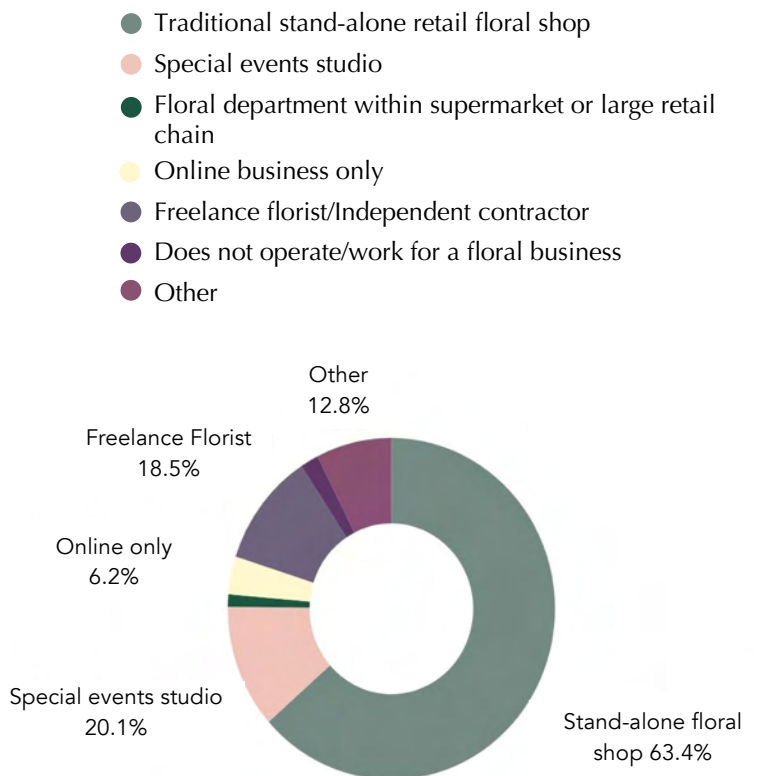
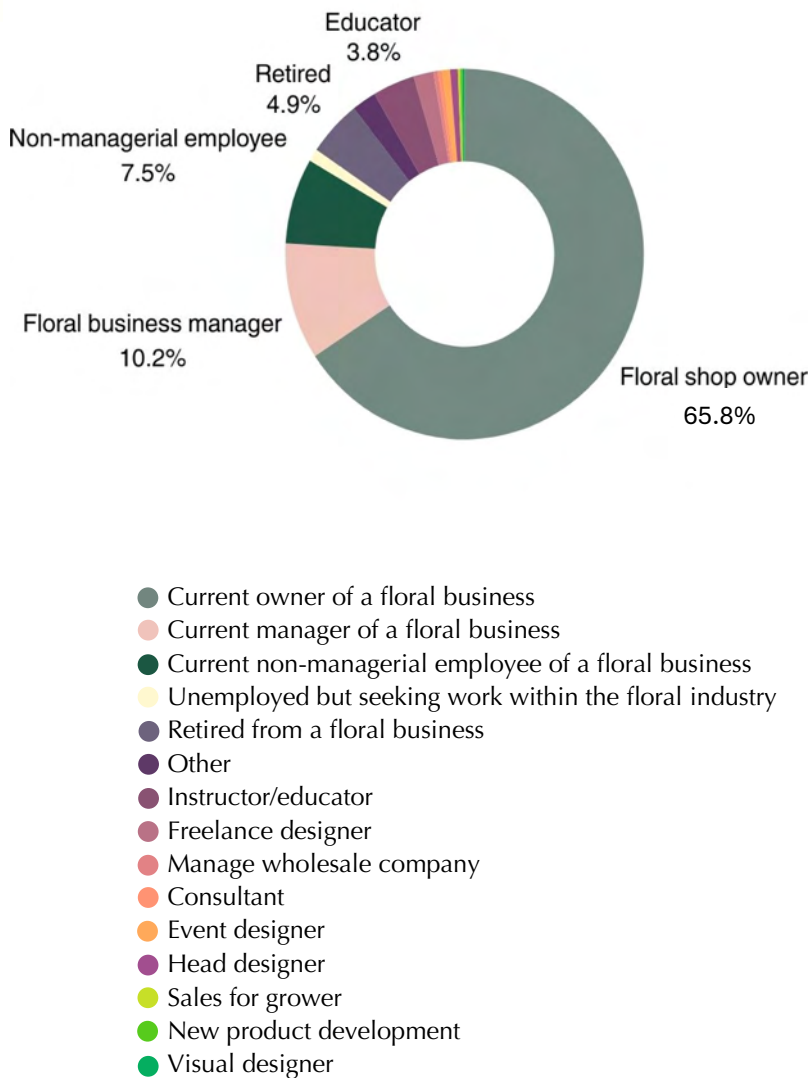


Table 8 & Figure 8. Frequency statistics comparing job position held within floriculture industry among participants. *n* = 453 people.

| Job Position Held                                      | Sample Population (n) | Sample Population (%) |
|--|-----------------------|-----------------------|
| Current owner of a floral business                     | 298                   | 65.8%                 |
| Current manager of a floral business                   | 46                    | 10.2%                 |
| Current non-managerial employee of a floral business   | 34                    | 7.5%                  |
| Retired from a floral business                         | 22                    | 4.9%                  |
| Instructor/educator                                    | 17                    | 3.8%                  |
| Other  | 10                    | 2.2%                  |
| Freelance designer                                     | 8                     | 1.8%                  |
| Unemployed but seeking work within the floral industry | 5                     | 1.1%                  |
| Event designer   | 3                     | 0.7%                  |
| Head designer  | 3                     | 0.7%                  |
| Manage wholesale company                               | 2                     | 0.4%                  |
| Consultant   | 2                     | 0.4%                  |
| Sales for grower                                       | 1                     | 0.2%                  |
| New product development                                | 1                     | 0.2%                  |
| Visual designer  | 1                     | 0.2%                  |



# Participants' Overall Perceptions of Environmentalism with the Floral Industry

Participants were asked a series of questions about their perceptions of how right they thought it was for professionals within the floral industry to become more sustainable and how aware they personally are of sustainable products and mechanics used for floral design. The majority of participants (74.2%) agreed or strongly agreed that it's the environmentally right choice for professional workers within the floral industry to become more environmentally sustainable when creating floral designs. Additionally, 80.1% of participants indicated that they were interested in learning more about sustainable floral design.



Table 9 & Figure 9. Frequency statistics for the question "I think it's the environmentally right choice for professional workers within the floral industry to become more environmentally sustainable when creating floral designs."

| Answer Choices             | Sample Population (n) | Sample Population (%) |
|----------------------------|-----------------------|-----------------------|
| Strongly Disagree          | 14                    | 3.1%                  |
| Disagree                   | 13                    | 2.9%                  |
| Neither agree nor disagree | 90                    | 19.9%                 |
| Agree                      | 211                   | 46.6%                 |
| Strongly Agree             | 125                   | 27.6%                 |

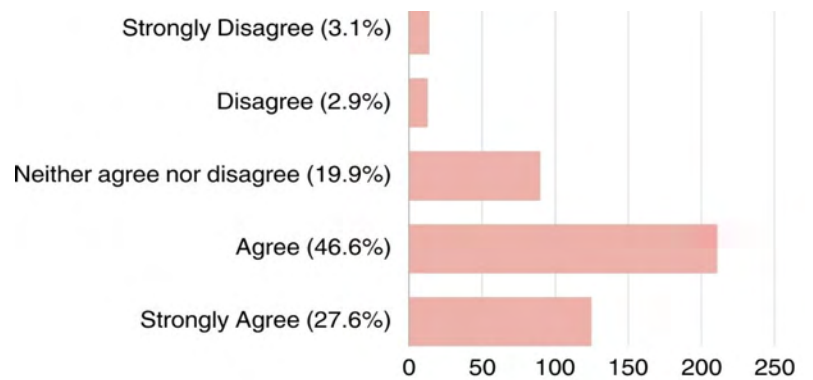


Table 10 & Figure 10. Frequency statistics for the question "I think professional workers within the floral industry should learn about sustainable methods to create floral arrangements."

| Answer Choices             | Sample Population (n) | Sample Population (%) |
|----------------------------|-----------------------|-----------------------|
| Strongly Disagree          | 7                     | 1.5%                  |
| Disagree                   | 10                    | 2.2%                  |
| Neither agree nor disagree | 46                    | 10.2%                 |
| Agree                      | 235                   | 51.9%                 |
| Strongly Agree             | 155                   | 34.2%                 |

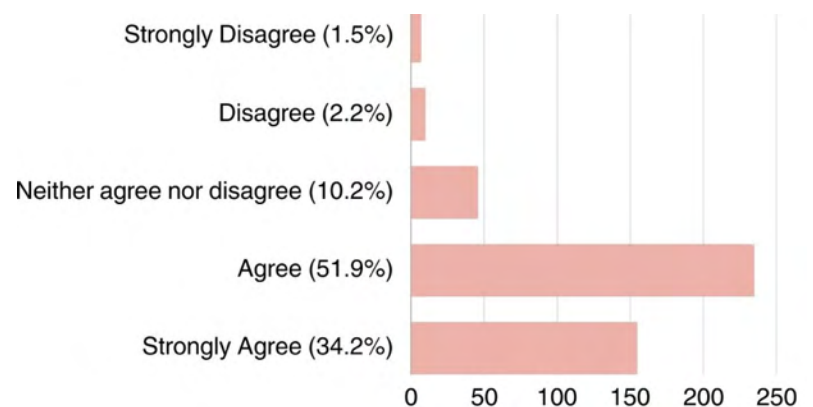
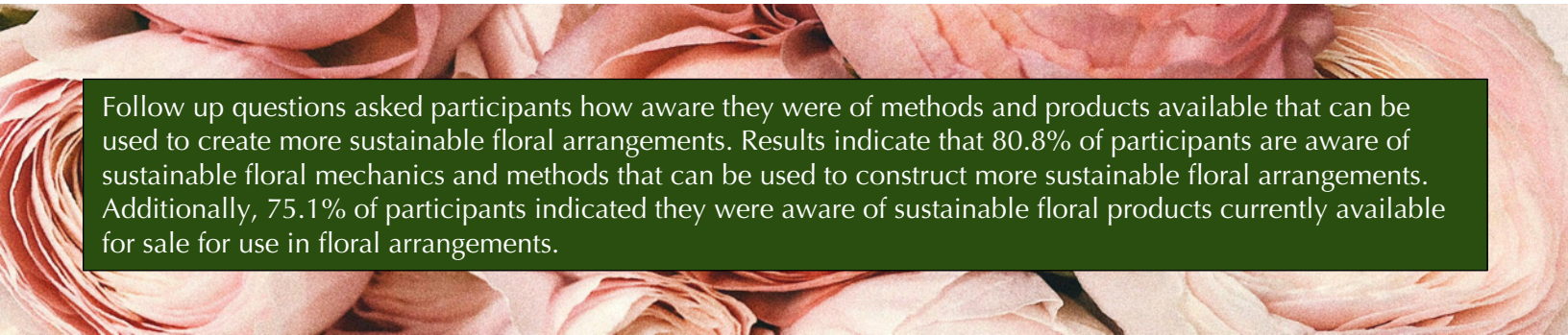
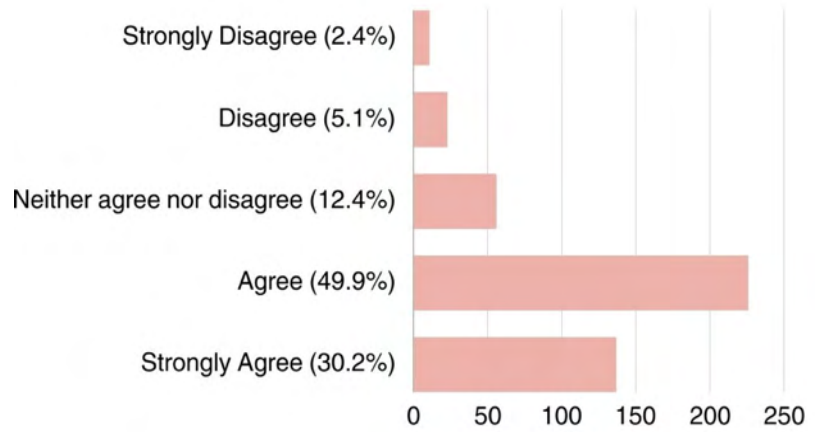


Table 11 & Figure 11. Frequency statistics for the question “I am personally interested in learning more about sustainable floral design.”

| Answer Choices             | Sample Population (n) | Sample Population (%) |
|----------------------------|-----------------------|-----------------------|
| Strongly Disagree          | 11                    | 2.4%                  |
| Disagree                   | 23                    | 5.1%                  |
| Neither agree nor disagree | 56                    | 12.4%                 |
| Agree                      | 226                   | 49.9%                 |
| Strongly Agree             | 137                   | 30.2%                 |



Follow up questions asked participants how aware they were of methods and products available that can be used to create more sustainable floral arrangements. Results indicate that 80.8% of participants are aware of sustainable floral mechanics and methods that can be used to construct more sustainable floral arrangements. Additionally, 75.1% of participants indicated they were aware of sustainable floral products currently available for sale for use in floral arrangements.

Figure 12. Frequency statistics for the question “I am aware of sustainable floral mechanics and methods that can be used to construct floral arrangements.”

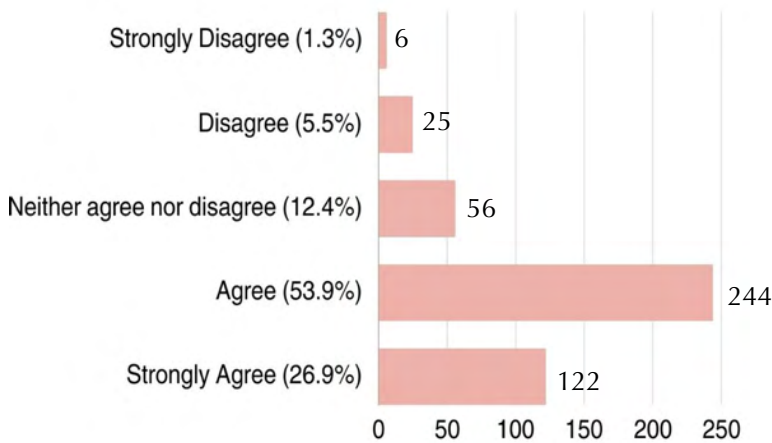
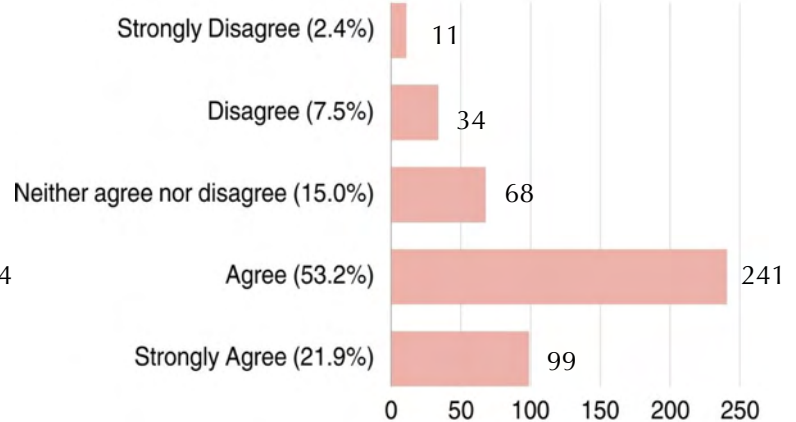


Figure 13. Frequency statistics for the question “I am aware of sustainable floral products currently available for floral arranging.”





# Professional Florists' use of Sustainable Floral Practices

Overall, 71.3% of participants indicated the business they own or work for has implemented at least one sustainable practice within their business model, with 60.5% of participants indicating they attempt to construct floral arrangements using sustainable mechanics and materials.

Table 14 & Figure 14. Frequency statistics for the question "Does the floral business you own/work for currently implement any environmentally sustainable practices."

| Answer Choices       | Sample Population (n) | Sample Population (%) |
|----------------------|-----------------------|-----------------------|
| Yes                  | 323                   | 71.3%                 |
| No                   | 84                    | 18.5%                 |
| I don't know         | 23                    | 5.1%                  |
| Not applicable to me | 23                    | 5.1%                  |

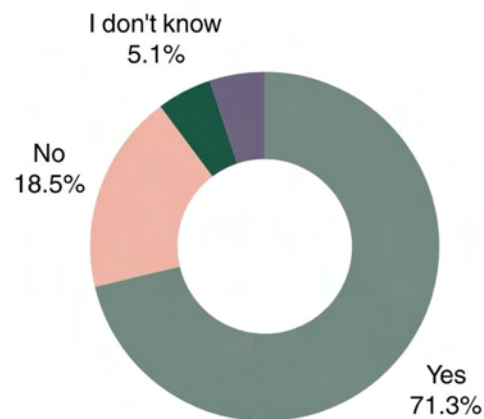
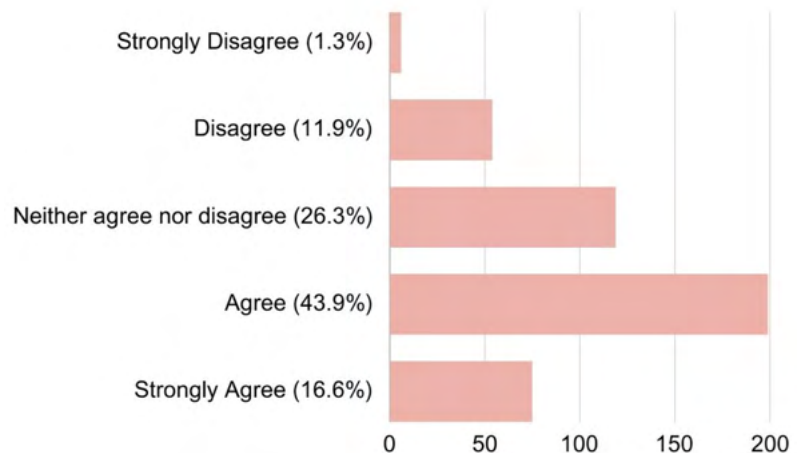


Table 15 & Figure 15. Frequency statistics for the question "I attempt to construct floral arrangements using more environmentally sustainable mechanics and materials."

| Answer Choices             | Sample Population (n) | Sample Population (%) |
|----------------------------|-----------------------|-----------------------|
| Strongly Disagree          | 6                     | 1.3%                  |
| Disagree                   | 54                    | 11.9%                 |
| Neither agree nor disagree | 119                   | 26.3%                 |
| Agree                      | 199                   | 43.9%                 |
| Strongly Agree             | 75                    | 16.6%                 |





Participants were asked to indicate sustainable practices they had introduced into their own business or the business in which they work. Of the options listed, the three most common sustainable practices currently implemented in floral businesses are the use of locally sourced flowers (57.4%), recycling of cardboard material (60.5%), and the promotion of the return of containers for re-use (55.6%). However, only 22.1% of participants said the business they own or work for promotes the use of sustainable practices to the public through advertising. The most common ways in which sustainable practices were marketed to the public were through social media (16.1%) and direct customer interaction (13.7%).

Table 16 & Figure 16. Frequency statistics for the question “Please select all the following sustainable floral practices that have been implemented in the floral business where you work or currently own.”

| Answer Choices                                | Sample Population (n) | Sample Population (%) | Answer Choices                                | Sample Population (n) | Sample Population (%) |
|---|-----------------------|-----------------------|---|-----------------------|-----------------------|
| Recycling of cardboard material               | 274                   | 60.5%                 | Use of sustainable or compostable floral foam | 128                   | 28.3%                 |
| Use of locally sourced flowers                | 260                   | 57.4%                 | Elimination of single-use plastic products    | 85                    | 18.8%                 |
| Promote the return of containers for re-use   | 252                   | 55.6%                 | Use of energy efficient floral cooler         | 73                    | 16.1%                 |
| Use of sustainable/reusable mechanics         | 212                   | 46.8%                 | Use of organically sourced flowers            | 71                    | 15.7%                 |
| Use of recyclable packaging material          | 208                   | 45.9%                 | Use of organic chemicals                      | 52                    | 11.5%                 |
| Use of sustainable or compostable containers  | 188                   | 41.5%                 | Use of harvested rainwater                    | 28                    | 6.2%                  |
| Use of energy efficient lighting              | 188                   | 41.5%                 | Use of hybrid or electric delivery van        | 20                    | 4.4%                  |
| Composting flower waste                       | 133                   | 29.4%                 | Other   | 18                    | 4.0%                  |
| Use of fair-trade sourced flowers             | 132                   | 29.1%                 | Installation of solar panels or wind turbines | 13                    | 2.9%                  |
| Use of sustainable or compostable floral foam | 128                   | 28.3%                 |   |                       |                       |

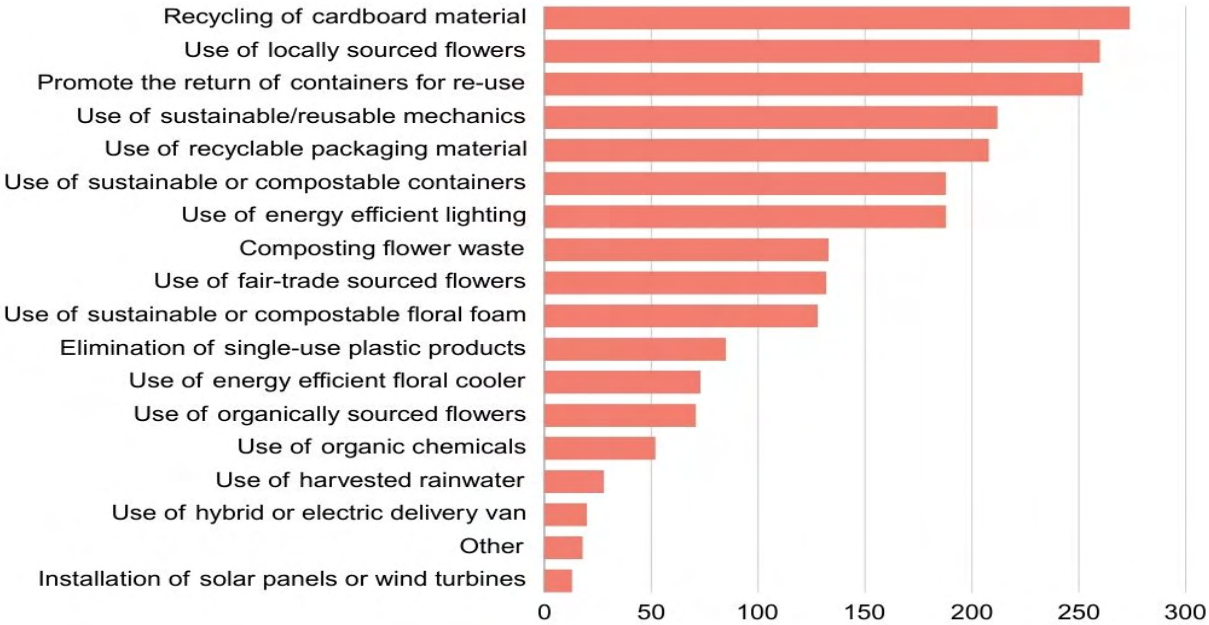


Table 17 & Figure 17. Frequency statistics for the question “Does the floral business you own/work for currently promote their sustainable practices to the public through advertising in any format?”

| Answer Choices | Sample Population (n) | Sample Population (%) |
|----------------|-----------------------|-----------------------|
| Yes            | 100                   | 22.1%                 |
| No             | 209                   | 46.1%                 |
| I don't know   | 14                    | 3.1%                  |

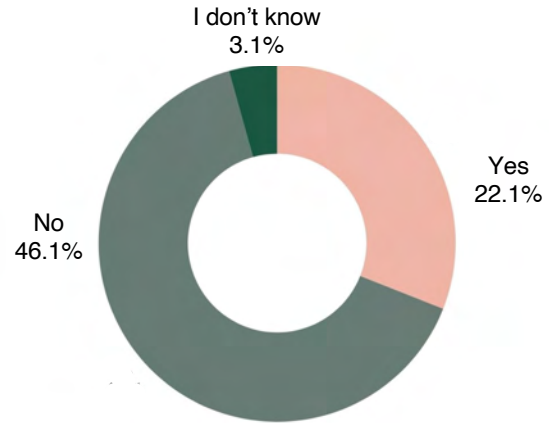
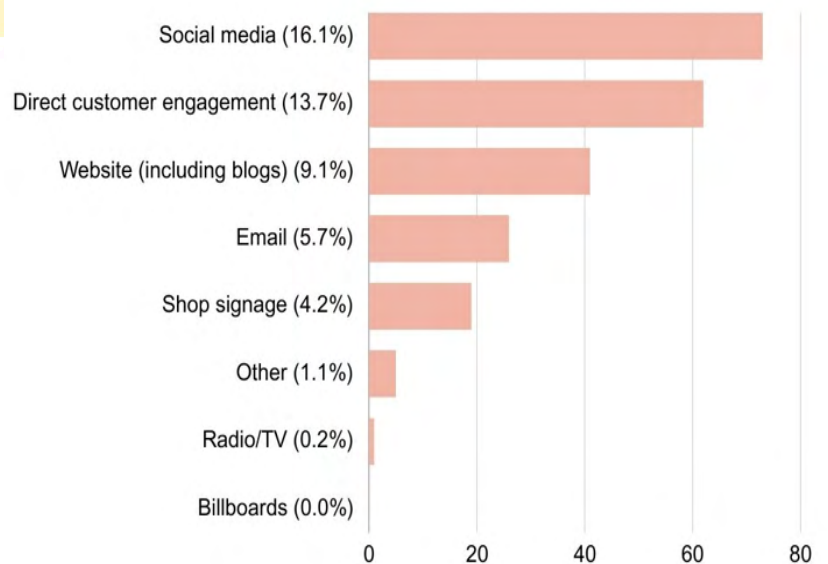


Table 18 & Figure 18. Frequency statistics for the question “Please select all the following ways in which the floral business you own/work for currently promotes their sustainable practices.”

| Answer Choices             | Sample Population (n) | Sample Population (%) |
|----------------------------|-----------------------|-----------------------|
| Social media               | 73                    | 16.1%                 |
| Direct customer engagement | 62                    | 13.7%                 |
| Website (including blogs)  | 41                    | 9.1%                  |
| Email                      | 26                    | 5.7%                  |
| Shop signage               | 19                    | 4.2%                  |
| Other                      | 5                     | 1.1%                  |
| Radio/TV                   | 1                     | 0.2%                  |
| Billboards                 | 0                     | 0.0%                  |





# Barriers Preventing Adoption of Sustainable Practices

Participants were asked if there was anything preventing them from adopting sustainable practices. Overall, 46.4% of respondents indicated there was a barrier preventing them from adopting sustainable practices within their business with the two most common barriers being cost of sustainable products (18.3%) and the design being created requires non sustainable products to create with no sustainable alternatives (8.4%).



Table 19 & Figure 19. Frequency statistics for the question “Do you have barriers that prevent you from implementing sustainable practices within your own business or when creating floral arrangements?”

| Answer Choices       | Sample Population (n) | Sample Population (%) |
|----------------------|-----------------------|-----------------------|
| Yes                  | 210                   | 46.4%                 |
| No                   | 161                   | 35.5%                 |
| I don't know         | 57                    | 12.6%                 |
| Not applicable to me | 25                    | 5.5%                  |

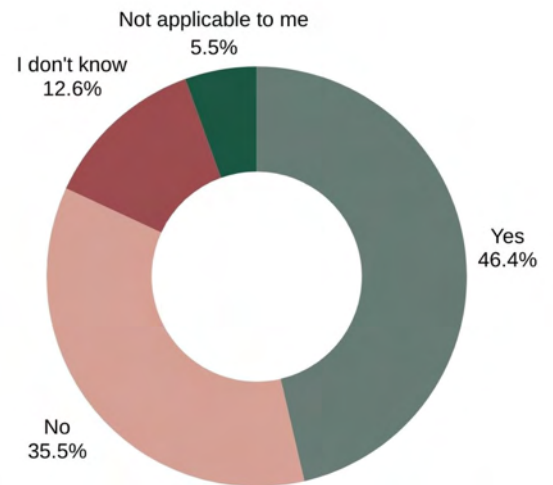
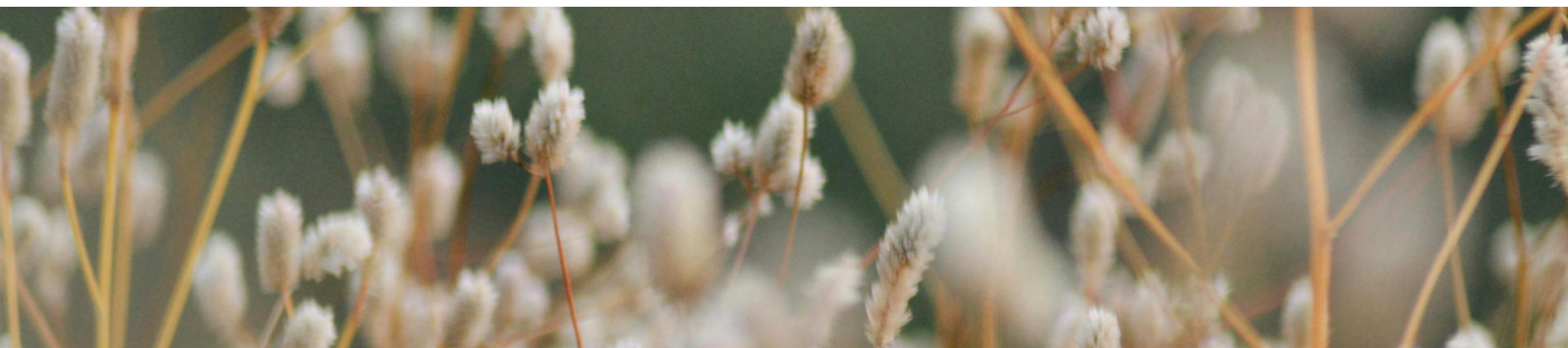
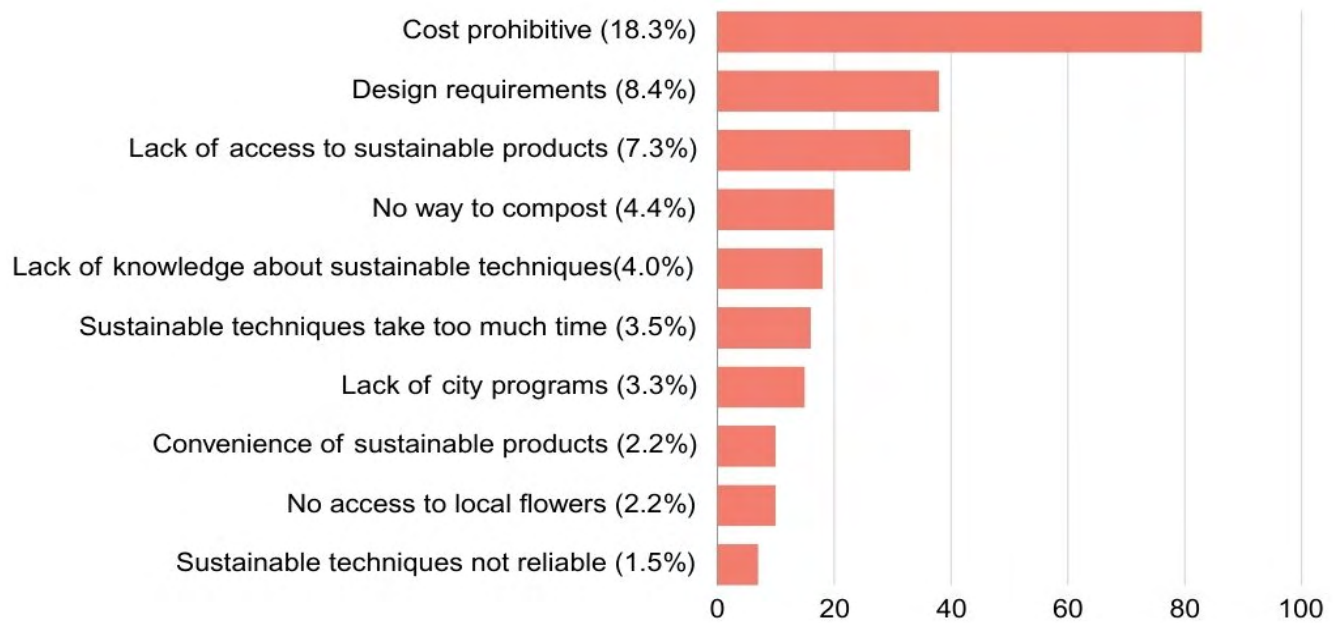


Table 20 & Figure 20. Frequency statistics for participants' indicated barriers preventing the adoption of sustainable practices.

| Answer Choices   | Sample Population (n) | Sample Population (%) | Answer Choices                                  | Sample Population (n) | Sample Population (%) |
|--|-----------------------|-----------------------|---|-----------------------|-----------------------|
| Cost prohibitive   | 83                    | 18.3%                 | Sustainable techniques take too much time       | 16                    | 3.5%                  |
| Design requires non-sustainable products to create. No sustainable alternative | 38                    | 8.4%                  | Lack of city programs such as recycling centers | 15                    | 3.3%                  |
| Lack of access to sustainable products   | 33                    | 7.3%                  | Convenience of sustainable products             | 10                    | 2.2%                  |
| No way to compost  | 20                    | 4.4%                  | No access to local flowers                      | 10                    | 2.2%                  |
| Lack of knowledge about sustainable techniques                                 | 18                    | 4.0%                  | Sustainable techniques not reliable             | 7                     | 1.5%                  |



# Customer Interest in Sustainable Practices

Participants were asked to indicate if they were fielding questions from their customers regarding their sustainable practices and what the most frequent questions being asked were. A majority of participants (72.2%) said their customers had not inquired about their sustainable practices. Participants that said they had answered questions about their sustainable practices were asked to list the most common questions they were answering. The three most common questions customers purchasing floral products have regarding environmentalism within the floral industry are regarding the use of locally sourced flowers (6.8%), questions regarding if vases can be brought back and reused (4.4%), and if traditional floral foam is being used within the design (4.2%).



Table 21 & Figure 21. Frequency statistics for the question “Have you had customers inquire about your sustainable practices?”

| Answer Choices       | Sample Population (n) | Sample Population (%) |
|----------------------|-----------------------|-----------------------|
| Yes                  | 111                   | 24.5%                 |
| No                   | 327                   | 72.2%                 |
| Not applicable to me | 15                    | 3.3%                  |

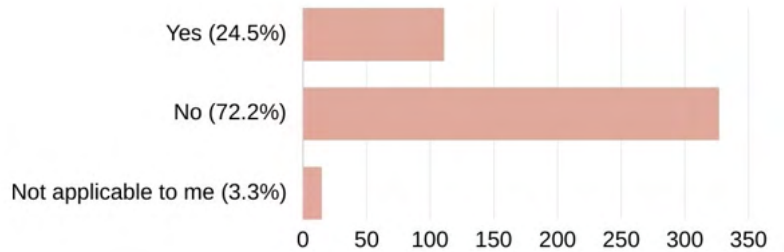
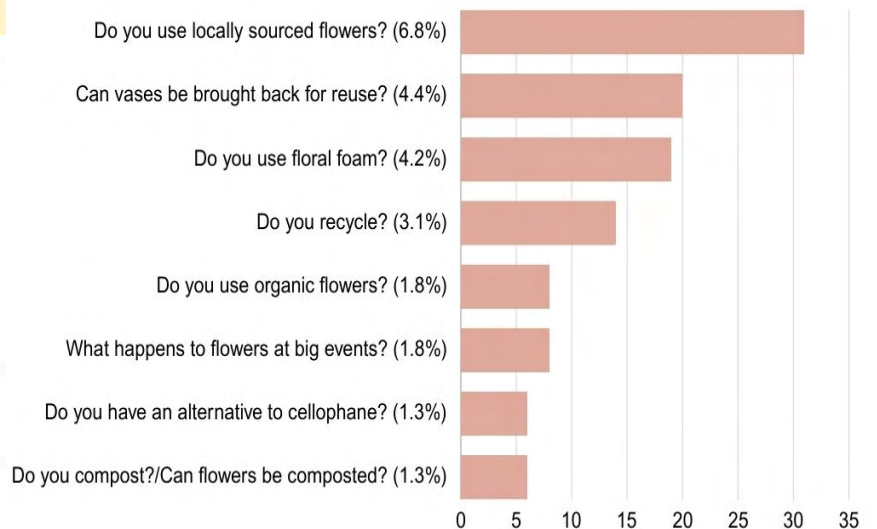


Table 22 & Figure 22. Frequency statistics for the most common questions asked by customers about sustainable practices in the floral industry as indicated by participants.

| Answer Choices                            | Sample Population (n) | Sample Population (%) |
|---|-----------------------|-----------------------|
| Do you use locally sourced flowers?       | 31                    | 6.8%                  |
| Can vases be brought back for reuse?      | 20                    | 4.4%                  |
| Do you use floral foam?                   | 19                    | 4.2%                  |
| Do you recycle?                           | 14                    | 3.1%                  |
| Do you use organic flowers?               | 8                     | 1.8%                  |
| What happens to flowers in big events?    | 8                     | 1.8%                  |
| Do you have an alternative to cellophane? | 6                     | 1.3%                  |
| Do you compost?/Can flowers be composted? | 6                     | 1.3%                  |





# Participants’ Interest in Sustainable Floral Certification

Participants were asked to indicate how interested they would be in obtaining a sustainable floral certification if such a certification existed. 40.2% of participants said they were interested or very interested in completing a certification in sustainable floristry, with an additional 41.3% indicating they would be somewhat interested. When asked in what format they would prefer to complete a certification program, the most common answer was online (37.7%) with the certification process taking just one day (29.6%). Additionally, it was found the participants interested in completing a floral certification would be willing to spend on average \$861.00.

Table 23 & Figure 23. Frequency statistics for the question “How interested would you be to participate in a sustainability certification program in which you/your business receive an industry recognized sustainable certification?”

| Answer Choices        | Sample Population (n) | Sample Population (%) |
|-----------------------|-----------------------|-----------------------|
| Not interested at all | 84                    | 18.5%                 |
| Somewhat interested   | 187                   | 41.3%                 |
| Interested            | 115                   | 25.4%                 |
| Very interested       | 67                    | 14.8%                 |

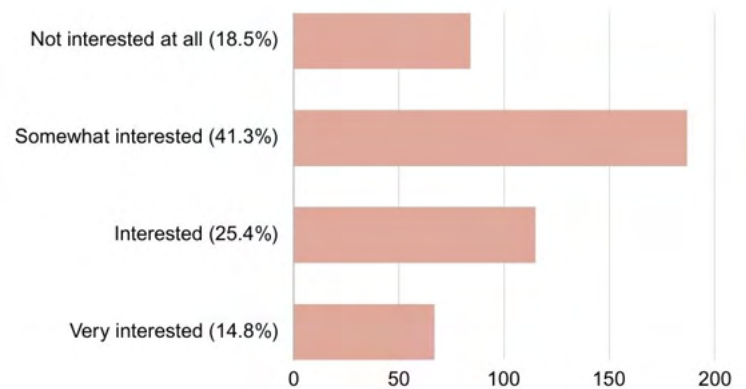


Table 24 & Figure 24. Frequency statistics for the question “In what format would you prefer to take a sustainable certification program?”

| Answer Choices   | Sample Population (n) | Sample Population (%) |
|--|-----------------------|-----------------------|
| Online only  | 171                   | 37.7%                 |
| Face to face/online hybrid course                          | 145                   | 32.0%                 |
| I am not interested in a sustainable certification program | 101                   | 22.3%                 |
| Face to face   | 36                    | 7.9%                  |

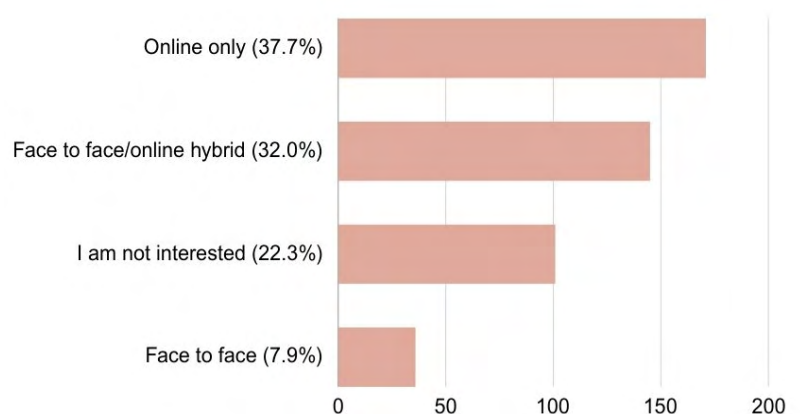
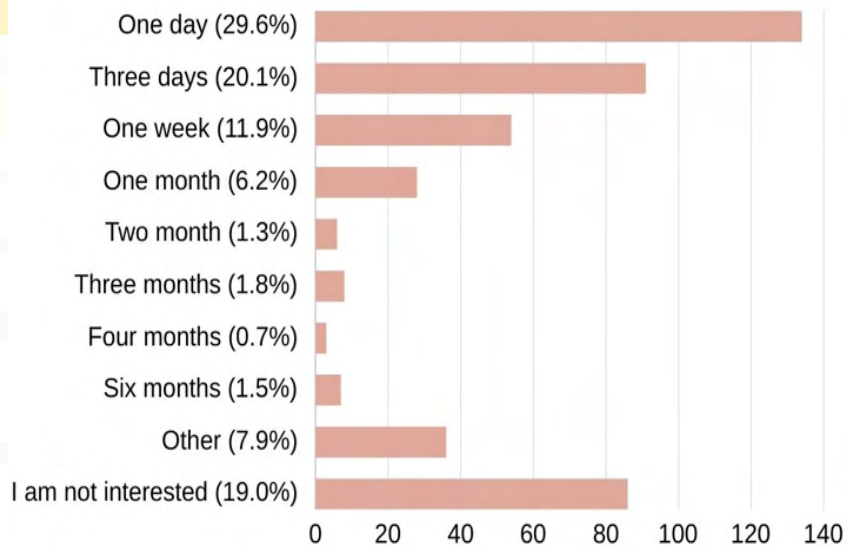


Table 25 & Figure 25. Frequency statistics for the question “How long would you prefer a sustainable certification program to take?”

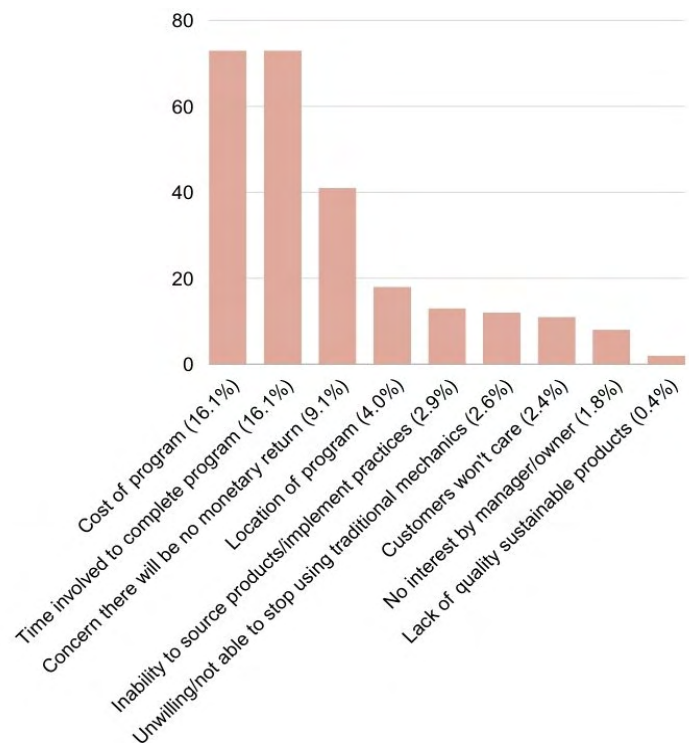
| Answer Choices   | Sample Population (n) | Sample Population (%) |
|--|-----------------------|-----------------------|
| One day  | 134                   | 29.6%                 |
| Three days   | 91                    | 20.1%                 |
| One week   | 54                    | 11.9%                 |
| One month  | 28                    | 6.2%                  |
| Two months   | 6                     | 1.3%                  |
| Three months   | 8                     | 1.8%                  |
| Four months  | 3                     | 0.7%                  |
| Six months   | 7                     | 1.5%                  |
| Other  | 36                    | 7.9%                  |
| I am not interested in a sustainable certification program | 86                    | 19.0%                 |



Participants were asked if there were any barriers that would prevent them from participating in a sustainable floral certification program. The top two main concerns participants had about completing a certification program were the cost of the program (16.1%) and the time involved to complete the program (16.1%).

Table 26 & Figure 26. Frequency statistics for the barriers preventing the completion of a sustainable certification as indicated by participants.

| Answer Choices  | Sample Population (n) | Sample Population (%) |
|---|-----------------------|-----------------------|
| Cost of program   | 73                    | 16.1%                 |
| Time involved to complete program   | 73                    | 16.1%                 |
| Concern there will be no monetary return on additional costs to business        | 41                    | 9.1%                  |
| Location of program   | 18                    | 4.0%                  |
| Inability to source sustainable products and/or implement sustainable practices | 13                    | 2.9%                  |
| Unwilling/not able to stop using foam/traditional mechanics                     | 12                    | 2.6%                  |
| Customers won't care  | 11                    | 2.4%                  |
| No interest by manager/owner  | 8                     | 1.8%                  |
| Lack of quality sustainable floral products to replace traditional materials    | 2                     | 0.4%                  |



# Participants' Perceptions on the Current Sustainability Level of the Floral Industry Pre and Post Survey

Participants were asked to rate on a scale of 0-10 how sustainable they thought the floral industry currently is both before and after taking the survey, with 0 indicating not sustainable at all and 10 representing completely sustainable. The overall mean score for the study was 5.08, indicating participants thought the floral industry was moderately sustainable. Overall, there was a drop of 0.51 points from the pre-survey (mean score 5.34) to the post-survey (mean score 4.83). While not a significant drop, this could indicate that through the course of the survey, consumers may have begun to think more in-depth about sustainability in the floral industry.



## Significant Differences of Participants' Responses Based on Demographics

After a general analysis of the data was conducted, all questions were analyzed based on the demographics of the participants. Analysis of variance (ANOVA) tests were used to determine if there were significant differences in the way participants answered the questions based on various demographic characteristics, and post hoc analysis was used to determine where the differences occurred. The following sections report all significant findings related to how participants answered the questions based on the demographic characteristics collected from the survey.



# Significant Differences of Participants' Responses Based on Gender

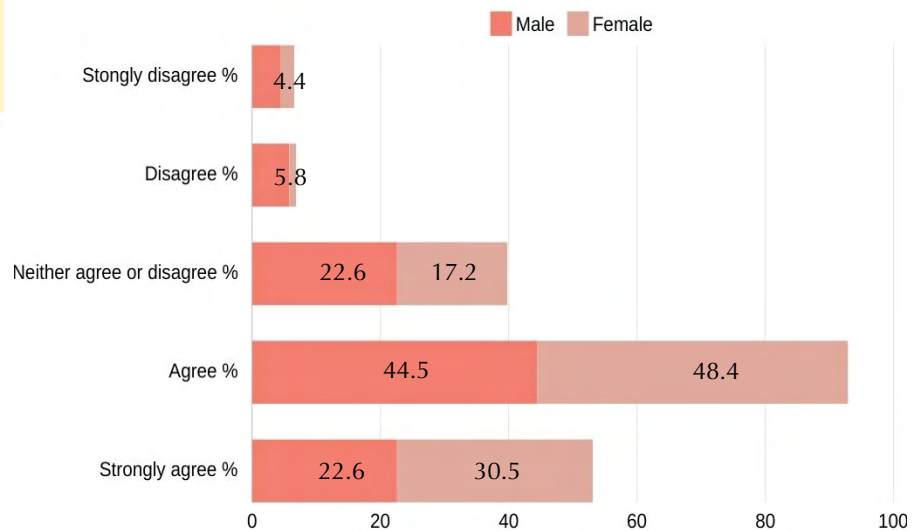
Participants' responses were compared based on gender. Analysis of variance (ANOVA) tests were used to determine if there were significant differences in the way participants answered the survey questions based on their gender. Significant differences were found in the way participants answered five of the survey questions based on their gender.

When asked "I think it's the environmentally right choice for professional workers within the floral industry to become more environmentally sustainable when creating floral designs," post hoc analysis (LSD) indicated there was a difference in the way male and female participants responded to the question when compared to each other. Females (78.9%) agreed or strongly agreed more often with the statement when compared to males (67.1%).



Table 27 & Figure 27. Frequency statistics indicating significant differences in participant responses to survey question "I think it's the environmentally right choice for professional workers within the floral industry to become more environmentally sustainable when creating floral designs" based on gender.

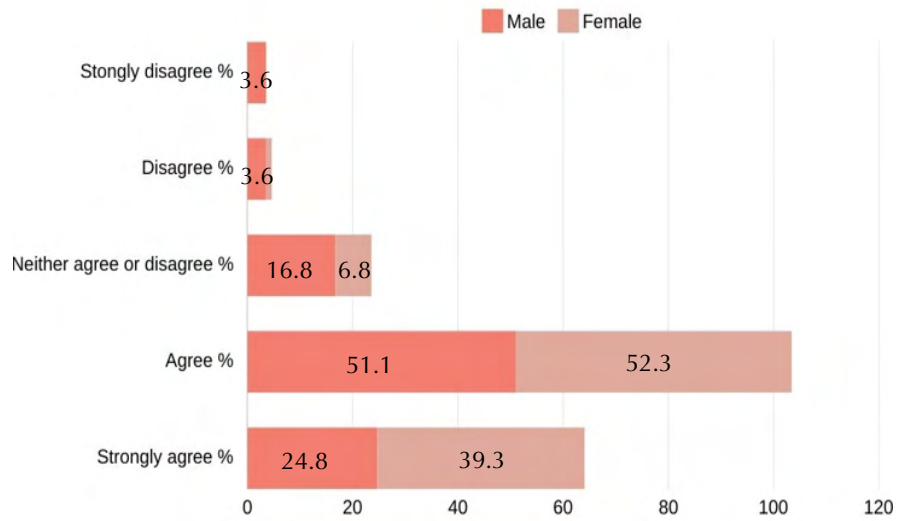
| Answer Choices             | Male Sample Population (n) | Male Sample Population (%) | Female Sample Population (n) | Female Sample Population (%) |
|----------------------------|----------------------------|----------------------------|------------------------------|------------------------------|
| Strongly disagree          | 6                          | 4.4%                       | 8                            | 2.6%                         |
| Disagree                   | 8                          | 5.8%                       | 4                            | 1.3%                         |
| Neither agree nor disagree | 31                         | 22.6%                      | 53                           | 17.2%                        |
| Agree                      | 61                         | 44.5%                      | 149                          | 48.4%                        |
| Strongly agree             | 31                         | 22.6%                      | 94                           | 30.5%                        |



When asked “I think professional workers within the floral industry should learn about sustainable methods to create floral arrangements,” post hoc analysis (LSD) indicated there was a difference in the way male and female participants responded to the question when compared to each other. Females (91.6%) agreed or strongly agreed more often with the statement when compared to males (75.9%).

Table 28 & Figure 28. Frequency statistics indicating significant differences in participant responses to survey question “I think professional workers within the floral industry should learn about sustainable methods to create floral arrangements” based on gender.

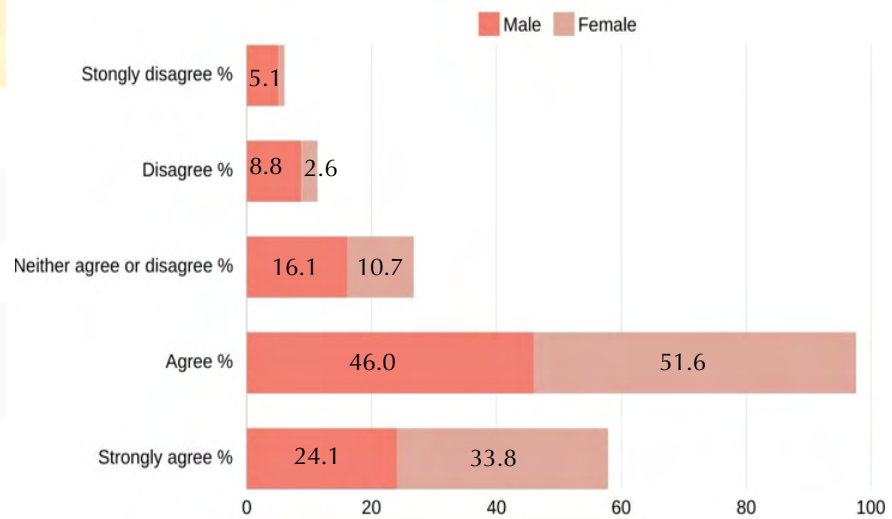
| Answer Choices             | Male Sample Population (n) | Male Sample Population (%) | Female Sample Population (n) | Female Sample Population (%) |
|----------------------------|----------------------------|----------------------------|------------------------------|------------------------------|
| Strongly disagree          | 5                          | 3.6%                       | 2                            | 0.6%                         |
| Disagree                   | 5                          | 3.6%                       | 3                            | 1.0%                         |
| Neither agree nor disagree | 23                         | 16.8%                      | 21                           | 6.8%                         |
| Agree                      | 70                         | 51.1%                      | 161                          | 52.3%                        |
| Strongly agree             | 34                         | 24.8%                      | 121                          | 39.3%                        |



When asked “I am personally interested in learning more about sustainable floral design,” post hoc analysis (LSD) indicated there was a difference in the way male and female participants responded to the question when compared to each other. Females (85.4%) agreed or strongly agreed more often with the statement when compared to males (70.1%).

Table 29 & Figure 29. Frequency statistics indicating significant differences in participant responses to survey question “I am personally interested in learning more about sustainable floral design” based on gender.

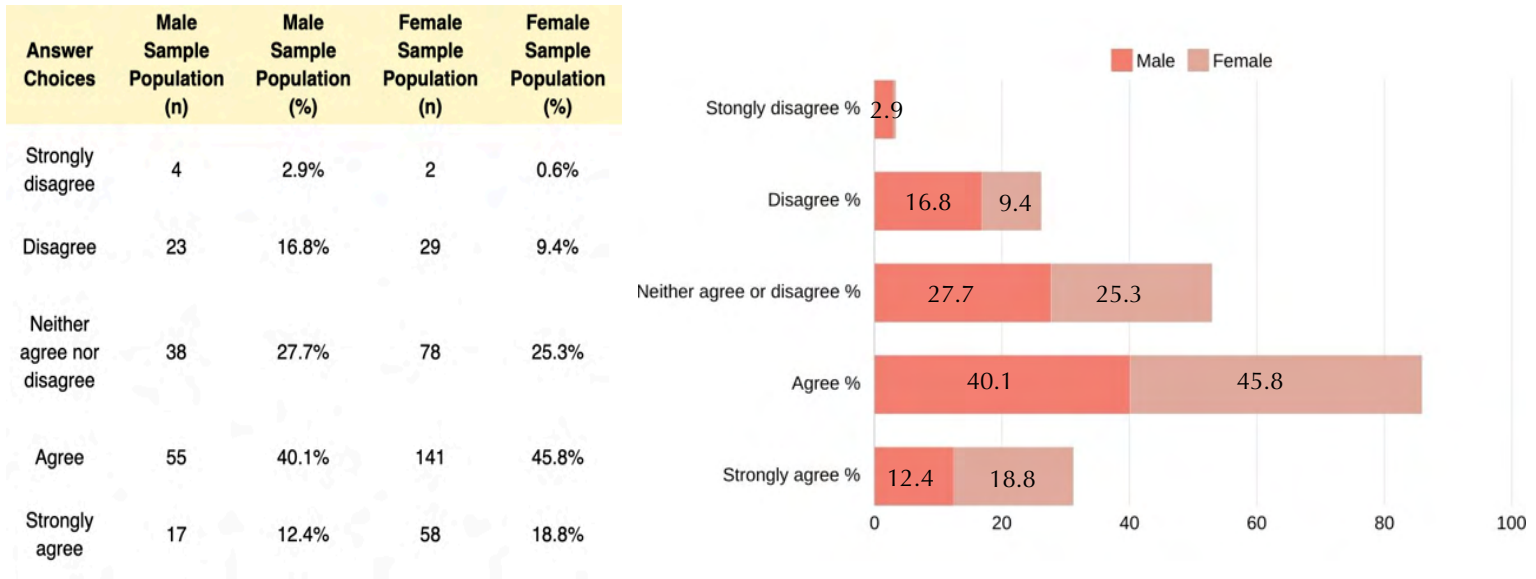
| Answer Choices             | Male Sample Population (n) | Male Sample Population (%) | Female Sample Population (n) | Female Sample Population (%) |
|----------------------------|----------------------------|----------------------------|------------------------------|------------------------------|
| Strongly disagree          | 7                          | 5.1%                       | 4                            | 1.3%                         |
| Disagree                   | 12                         | 8.8%                       | 8                            | 2.6%                         |
| Neither agree nor disagree | 22                         | 16.1%                      | 33                           | 10.7%                        |
| Agree                      | 63                         | 46.0%                      | 159                          | 51.6%                        |
| Strongly agree             | 33                         | 24.1%                      | 104                          | 33.8%                        |





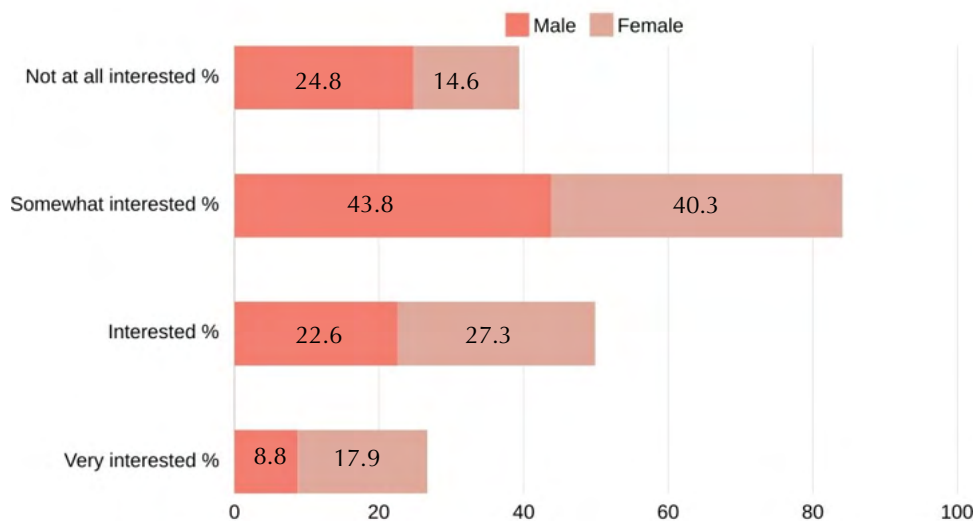
When asked “I attempt to construct floral arrangements using more environmentally sustainable mechanics and materials.” post hoc analysis (LSD) indicated there was a difference in the way male and female participants responded to the question when compared to each other. Females (64.6%) agreed or strongly agreed more often with the statement when compared to males (52.5%).

Table 30 & Figure 30. Frequency statistics indicating significant differences in participant responses to survey question “I attempt to construct floral arrangements using more environmentally sustainable mechanics and materials” based on gender.



When asked “How interested would you be to participate in a sustainability certification program in which you/your business receive an industry recognized sustainable certification?” post hoc analysis (LSD) indicated there was a difference in the way male and female participants responded to the question when compared to each other. Females (45.2%) interested or very interested more often with the statement when compared to males (31.4%).

Figure 31. Frequency statistics indicating significant differences in participant responses to survey question “How interested would you be to participate in a sustainability certification program in which you/your business receive an industry recognized sustainable certification?” based on gender.



Overall, females indicated a stronger interest in sustainable floral design and in the use of sustainable floral mechanics when compared to males.

# Significant Differences of Participants' Responses Based on Age

Participants' responses were compared based on age. Analysis of variance (ANOVA) tests were used to determine if there were significant differences in the way participants answered the survey questions based on their age. Significant differences were found in the way participants answered one of the survey questions based on their age.

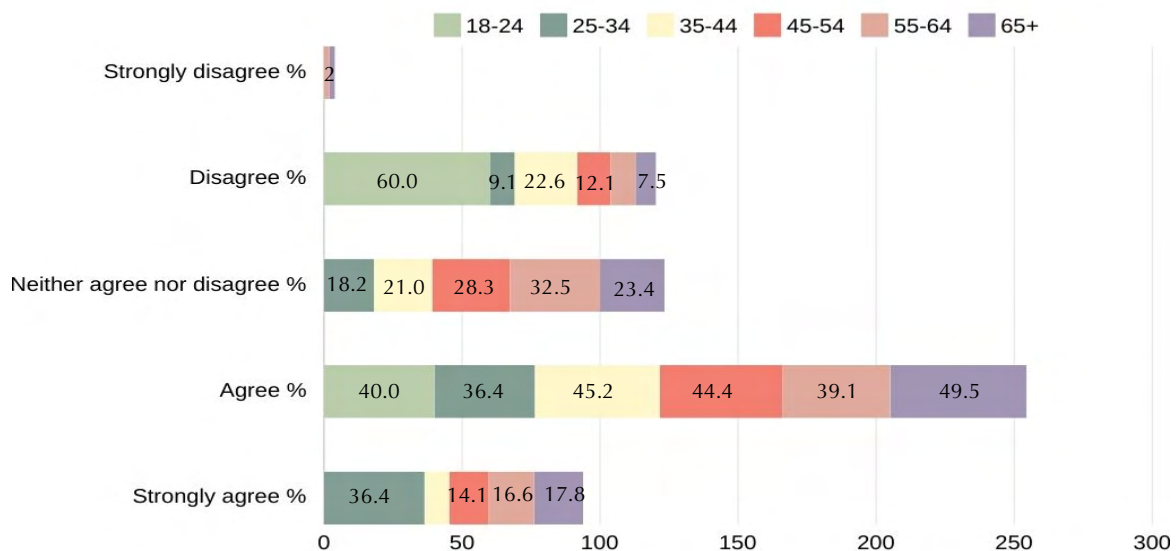
When asked "I attempt to construct floral arrangements using more environmentally sustainable mechanics and materials," post hoc analysis (LSD) indicated there was a difference in the way participants responded to the

question when compared to each other based on their age.

Individuals 25-34 years of age (72.8%) agreed or strongly agreed more often with the statement when compared to all other age groups, indicating this age groups are the most likely to currently be constructing floral arrangements using more sustainable methods. However, because the response rate was relatively low for individuals 34 years of age and younger, these results could vary if a larger population of individuals 34 years of age and younger were sampled.

Table 32 & Figure 32. Frequency statistics indicating significant differences in participant responses to survey question "I attempt to construct floral arrangements using more environmentally sustainable mechanics and materials" based on age.

| Answer Choice              | 18-24 Sample Population (n) | 18-24 Sample Population (%) | 25-34 Sample Population (n) | 25-34 Sample Population (%) | 35-44 Sample Population (n) | 35-44 Sample Population (%) | 45-54 Sample Population (n) | 45-54 Sample Population (%) | 55-64 Sample Population (n) | 55-64 Sample Population (%) | 65+ Sample Population (n) | 65+ Sample Population (%) |
|----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|---------------------------|---------------------------|
| Strongly disagree          | 0                           | 0.0%                        | 0                           | 0.0%                        | 0                           | 0.0%                        | 1                           | 1.0%                        | 3                           | 2.0%                        | 2                         | 1.9%                      |
| Disagree                   | 3                           | 60.0%                       | 2                           | 9.1%                        | 14                          | 22.6%                       | 12                          | 12.1%                       | 15                          | 9.9%                        | 8                         | 7.5%                      |
| Neither agree nor disagree | 0                           | 0.0%                        | 4                           | 18.2%                       | 13                          | 21.0%                       | 28                          | 28.3%                       | 49                          | 32.5%                       | 25                        | 23.4%                     |
| Agree                      | 2                           | 40.0%                       | 8                           | 36.4%                       | 28                          | 45.2%                       | 44                          | 44.4%                       | 59                          | 39.1%                       | 53                        | 49.5%                     |
| Strongly agree             | 0                           | 0.0%                        | 8                           | 36.4%                       | 7                           | 11.3%                       | 14                          | 14.1%                       | 25                          | 16.6%                       | 19                        | 17.8%                     |



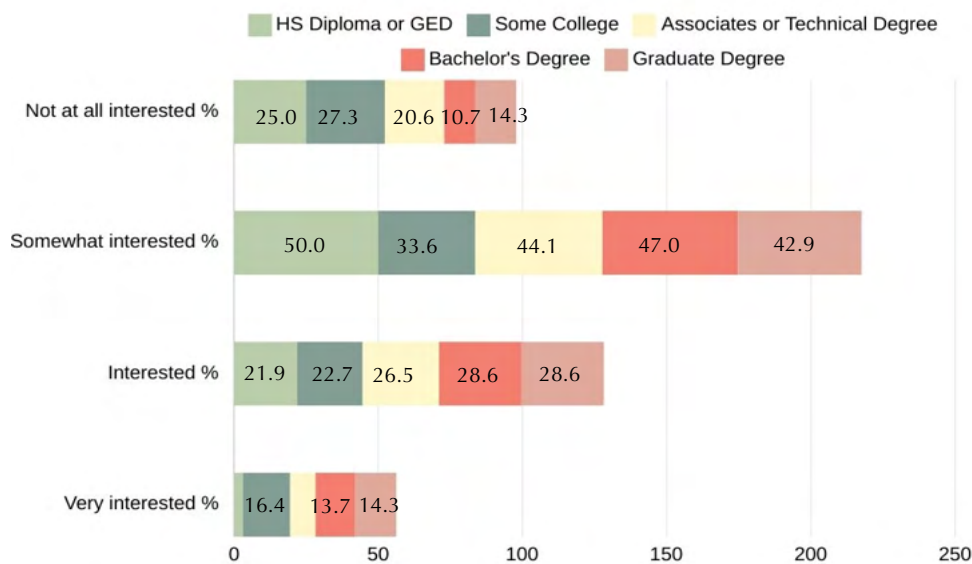
# Significant Differences of Participants' Responses Based on Highest Level of Education Received

Participants' responses were compared based on education level. Analysis of variance (ANOVA) tests were used to determine if there were significant differences in the way participants answered the survey questions based on their age. Significant differences were found in the way participants answered one of the survey questions based on their education level. Because of the overall small sample size for several of the educational levels' demographic groups, generalizations about education level groups could change with a larger, more diverse sample.

When asked "How interested would you be to participate in a sustainability certification program in which you/your business receive an industry recognized sustainable certification?" post hoc analysis (LSD) indicated there was a difference in the way participants responded to the question when compared to each other based on their education level. Individuals with a bachelor's degree (42.3%) and Graduate degree (49.3%) rated themselves as being interested or very interested in participating in a sustainable certification program higher rates when compared to the other educational levels.

Table 33 & Figure 33. Frequency statistics indicating significant differences in participant responses to survey question "How interested would you be to participate in a sustainability certification program in which you/your business receive an industry recognized sustainable certification?" based on education level.

| Answer Choice         | Some Highschool Sample Population (n) | Some Highschool Sample Population (%) | Highschool Diploma/GED Sample Population (n) | Highschool Diploma/GED Sample Population (%) | Some College Sample Population (n) | Some College Sample Population (%) | Associates or Technical Sample Population (n) | Associates or Technical Sample Population (%) | Bachelor's Degree Sample Population (n) | Bachelor's Degree Sample Population (%) | Graduate Degree Sample Population (n) | Graduate Degree Sample Population (%) |
|-----------------------|---------------------------------------|---------------------------------------|--|--|------------------------------------|------------------------------------|---|---|---|---|---------------------------------------|---------------------------------------|
| Not at all interested | 1                                     | 100.0%                                | 8  | 25.0%  | 30                                 | 27.3%                              | 14  | 20.6%   | 18                                      | 10.7%                                   | 12                                    | 17.9%                                 |
| Somewhat interested   | 0                                     | 0.0%                                  | 16   | 50.0%  | 37                                 | 33.6%                              | 30  | 44.1%   | 79                                      | 47.0%                                   | 22                                    | 32.8%                                 |
| Interested            | 0                                     | 0.0%                                  | 7  | 21.9%  | 25                                 | 22.7%                              | 18  | 26.5%   | 48                                      | 28.6%                                   | 15                                    | 22.4%                                 |
| Very interested       | 0                                     | 0.0%                                  | 1  | 3.1%   | 18                                 | 16.4%                              | 6   | 8.8%  | 23                                      | 13.7%                                   | 18                                    | 26.9%                                 |



# Significant Differences of Participants' Responses Based on Race/Ethnicity

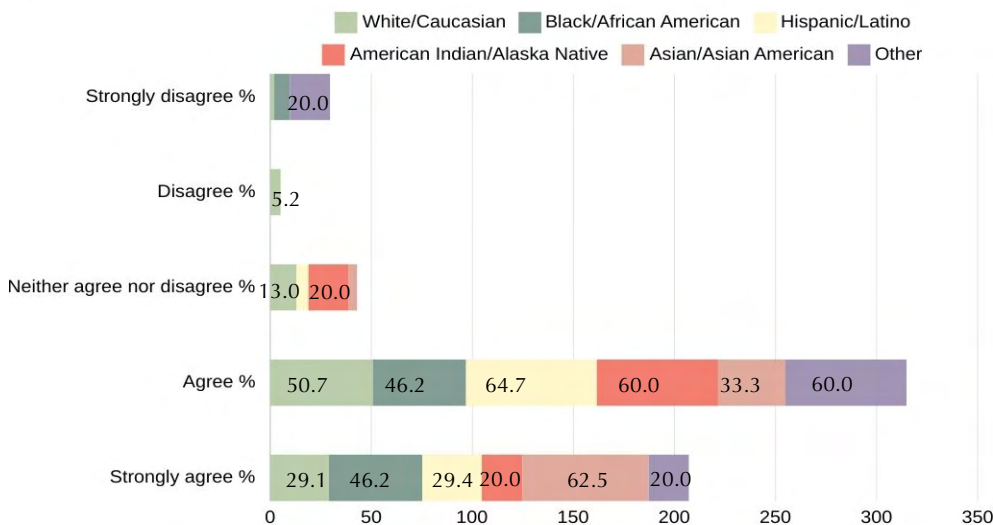
Participants' responses were compared based on race/ethnicity. A majority of all the participants (76.6%) where white/Caucasian, and because the sample size for all other racial groups were small, results regarding racial groups other than white/Caucasians cannot be generalized too the population as a whole and could vary upon testing of a larger, more racially diverse sample. Analysis of variance (ANOVA) tests were used to determine if there were significant differences in the way participants answered the survey questions based

way participants answered two of the survey questions based on their race.

When asked "I am personally interested in learning more about sustainable floral design," post hoc analysis (LSD) indicated there was a difference in the way participants that identified themselves as Asian/Asian American responded to the question when compared to each other racial groups. Asian/Asian Americans (95.8%) agreed or strongly agreed with the statement at a higher rate when compared to all other racial groups.

Figure 34. Frequency statistics indicating significant differences in participant responses to survey question "I am personally interested in learning more about sustainable floral design" based on race/ethnicity.

| Answer Choice              | White/Caucasian Sample Population (n) | White/Caucasian Sample Population (%) | Black/African American Sample Population (n) | Black/African American Sample Population (%) | Hispanic/Latino Sample Population (n) | Hispanic/Latino Sample Population (%) | Asian/Asian American Sample Population (n) | Asian/Asian American Sample Population (%) | Native American/Alaska Native Sample Population (n) | Native American/Alaska Native Sample Population (%) | Other Sample Population (n) | Other Sample Population (%) |
|----------------------------|---------------------------------------|---------------------------------------|--|--|---------------------------------------|---------------------------------------|--|--|---|---|-----------------------------|-----------------------------|
| Strongly disagree          | 7                                     | 2.0%                                  | 1  | 7.7%   | 0                                     | 0.0%                                  | 0  | 0.0%                                       | 0   | 0.0%  | 1                           | 20.0%                       |
| Disagree                   | 18                                    | 5.2%                                  | 0  | 0.0%   | 0                                     | 0.0%                                  | 0  | 0.0%                                       | 0   | 0.0%  | 0                           | 0.0%                        |
| Neither agree nor disagree | 45                                    | 13.0%                                 | 0  | 0.0%   | 1                                     | 5.9%                                  | 1  | 4.2%                                       | 1   | 20.0%   | 0                           | 0.0%                        |
| Agree                      | 176                                   | 50.7%                                 | 6  | 46.2%  | 11                                    | 64.7%                                 | 8  | 33.3%                                      | 3   | 60.0%   | 3                           | 60.0%                       |
| Strongly agree             | 101                                   | 29.1%                                 | 6  | 46.2%  | 5                                     | 29.4%                                 | 15   | 62.5%                                      | 1   | 20.0%   | 1                           | 20.0%                       |

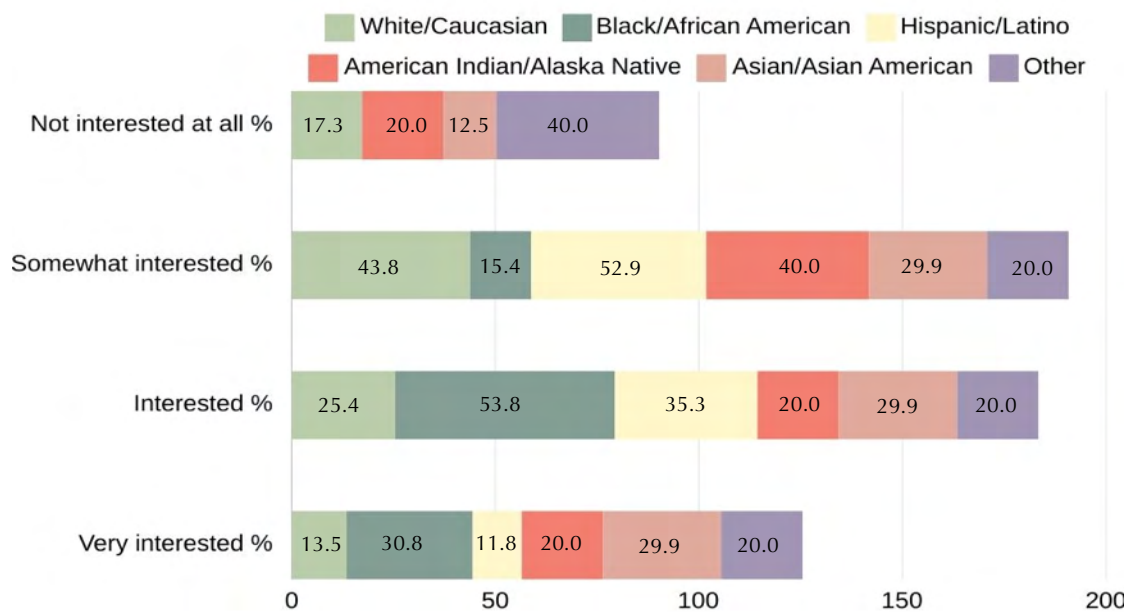


These findings are consistent with previous demographic data collected by the U.S. Bureau of Labor and Statistics which found the most common owner of a retail flower shop to be Caucasian (90.6%) and a woman (78.3%) (Bureau of Labor Statistics, 2023).

When asked “How interested would you be to participate in a sustainability certification program in which you/your business receive an industry recognized sustainable certification?” post hoc analysis (LSD) indicated there was a difference in the way participants that identified themselves as African American/Black responded to the question when compared to each other racial groups. African American/Black respondents (84.6%) agreed or strongly agreed with the statement at a higher rate when compared to all other racial groups.

Figure 35. Frequency statistics indicating significant differences in participant responses to survey question “How interested would you be to participate in a sustainability certification program in which you/your business receive an industry recognized sustainable certification?” based on race/ethnicity.

| Answer Choice         | White/Caucasian Sample Population (n) | White/Caucasian Sample Population (%) | Black/African American Sample Population (n) | Black/African American Sample Population (%) | Hispanic/Latino Sample Population (n) | Hispanic/Latino Sample Population (%) | Asian/Asian American Sample Population (n) | Asian/Asian American Sample Population (%) | Native American/Alaska Native Sample Population (n) | Native American/Alaska Native Sample Population (%) | Other Sample Population (n) | Other Sample Population (%) |
|-----------------------|---------------------------------------|---------------------------------------|--|--|---------------------------------------|---------------------------------------|--|--|---|---|-----------------------------|-----------------------------|
| Not interested at all | 60                                    | 17.3%                                 | 0  | 0.0%   | 0                                     | 0.0%                                  | 3  | 12.5%                                      | 1   | 20.0%   | 2                           | 40.0%                       |
| Somewhat interested   | 152                                   | 43.8%                                 | 2  | 15.4%  | 9                                     | 52.9%                                 | 7  | 29.9%                                      | 2   | 40.0%   | 1                           | 20.0%                       |
| Interested            | 88                                    | 25.4%                                 | 7  | 53.8%  | 6                                     | 35.3%                                 | 7  | 29.9%                                      | 1   | 20.0%   | 1                           | 20.0%                       |
| Very interested       | 47                                    | 13.5%                                 | 4  | 30.8%  | 2                                     | 11.8%                                 | 7  | 29.9%                                      | 1   | 20.0%   | 1                           | 20.0%                       |



# Significant Differences of Participants' Responses Based on Annual Household Income

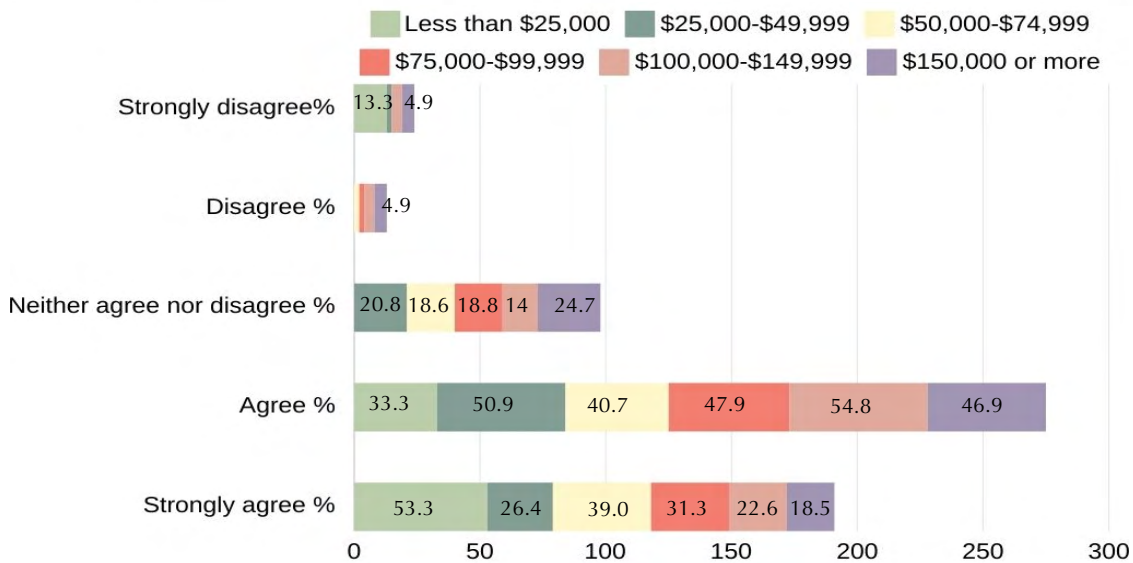
Participants' responses were compared based on annual household income. Analysis of variance (ANOVA) tests were used to determine if there were significant differences in the way participants answered the survey questions based on their annual household income. Significant differences were found in the way participants answered three of the survey questions based on their annual household income. Because of the overall small sample size for several of the annual household income levels demographic groups, generalizations about income groups could change with a larger, more diverse sample.

When asked "I think it's the environmentally right choice for professional workers within the floral industry to

become more environmentally sustainable when creating floral designs?" post hoc analysis (LSD) indicated there was a difference in the way participants that identified themselves as making less than \$25,000 and those making more than \$150,000 responded to the question when compared to each other and all other annual household income groups. Individuals that make less than \$25,000 (86.6%) agreed or strongly agreed with the statement at a higher rate when compared to all other annual household income groups. While those making more than \$150,000 (65.4%) agreed or strongly agreed the least when compared to all other annual household income groups.

Figure 36. Frequency statistics indicating significant differences in participant responses to survey question "I think it's the environmentally right choice for professional workers within the floral industry to become more environmentally sustainable when creating floral designs" based on annual household income.

| Answer Choice              | Less than \$25,000 (n) | Less than \$25,000 (%) | \$25,000-\$49,999 (n) | \$25,000-\$49,999 (%) | \$50,000-\$74,999 (n) | \$50,000-\$74,999 (%) | \$75,000-\$99,999 (n) | \$75,000-\$99,999 (%) | \$100,000-\$149,999 (n) | \$100,000-\$149,999 (%) | \$150,000 or more (n) | \$150,000 or more (%) |
|----------------------------|------------------------|------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-------------------------|-------------------------|-----------------------|-----------------------|
| Strongly disagree          | 2                      | 13.3%                  | 1                     | 1.9%                  | 0                     | 0.0%                  | 0                     | 0.0%                  | 4                       | 4.3%                    | 4                     | 4.9%                  |
| Disagree                   | 0                      | 0.0%                   | 0                     | 0.0%                  | 1                     | 1.7%                  | 1                     | 2.1%                  | 4                       | 4.3%                    | 4                     | 4.9%                  |
| Neither agree nor disagree | 0                      | 0.0%                   | 11                    | 20.8%                 | 11                    | 18.6%                 | 9                     | 18.8%                 | 13                      | 14.0%                   | 20                    | 24.7%                 |
| Agree                      | 5                      | 33.3%                  | 27                    | 50.9%                 | 24                    | 40.7%                 | 23                    | 47.9%                 | 51                      | 54.8%                   | 38                    | 46.9%                 |
| Strongly agree             | 8                      | 53.3%                  | 14                    | 26.4%                 | 23                    | 39.0%                 | 15                    | 31.3%                 | 21                      | 22.6%                   | 15                    | 18.5%                 |

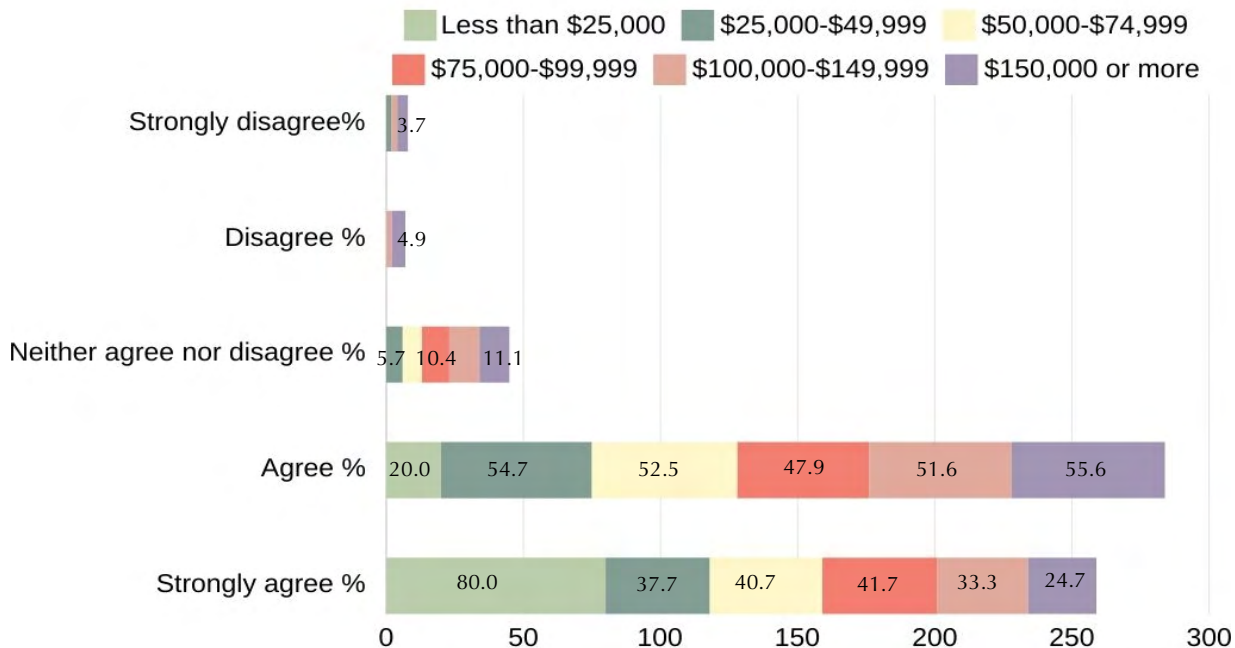




When asked “I think professional workers within the floral industry should learn about sustainable methods to create floral arrangements,” post hoc analysis (LSD) indicated there was a difference in the way participants that identified themselves as making less than \$25,000 and those making more than \$150,000 responded to the question when compared to each other and all other annual household income groups. Individuals that make less than \$25,000 (100.00%) agreed or strongly agreed with the statement at a higher rate when compared to all other annual household income groups. While those making more than \$150,000 (80.3%) agreed or strongly agreed the least when compared to all other annual household income groups.

Table 37 & Figure 37. Frequency statistics indicating significant differences in participant responses to survey question “I think professional workers within the floral industry should learn about sustainable methods to create floral arrangements” based on annual household income.

| Answer Choice              | Less than \$25,000 (n) | Less than \$25,000 (%) | \$50,000-\$74,999 (n) | \$50,000-\$74,999 (%) | \$75,000-\$99,999 (n) | \$75,000-\$99,999 (%) | \$100,000-\$149,999 (n) | \$100,000-\$149,999 (%) | \$150,000 or more (n) | \$150,000 or more (%) |
|----------------------------|------------------------|------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-------------------------|-------------------------|-----------------------|-----------------------|
| Strongly disagree          | 0                      | 0.0%                   | 0                     | 0.0%                  | 0                     | 0.0%                  | 2                       | 2.2%                    | 3                     | 3.7%                  |
| Disagree                   | 0                      | 0.0%                   | 0                     | 0.0%                  | 0                     | 0.0%                  | 2                       | 2.2%                    | 4                     | 4.9%                  |
| Neither agree nor disagree | 0                      | 0.0%                   | 4                     | 6.8%                  | 5                     | 10.4%                 | 10                      | 10.8%                   | 9                     | 11.1%                 |
| Agree                      | 3                      | 20.0%                  | 31                    | 52.5%                 | 23                    | 47.9%                 | 48                      | 51.6%                   | 45                    | 55.6%                 |
| Strongly agree             | 12                     | 80.0%                  | 24                    | 40.7%                 | 20                    | 41.7%                 | 31                      | 33.3%                   | 20                    | 24.7%                 |

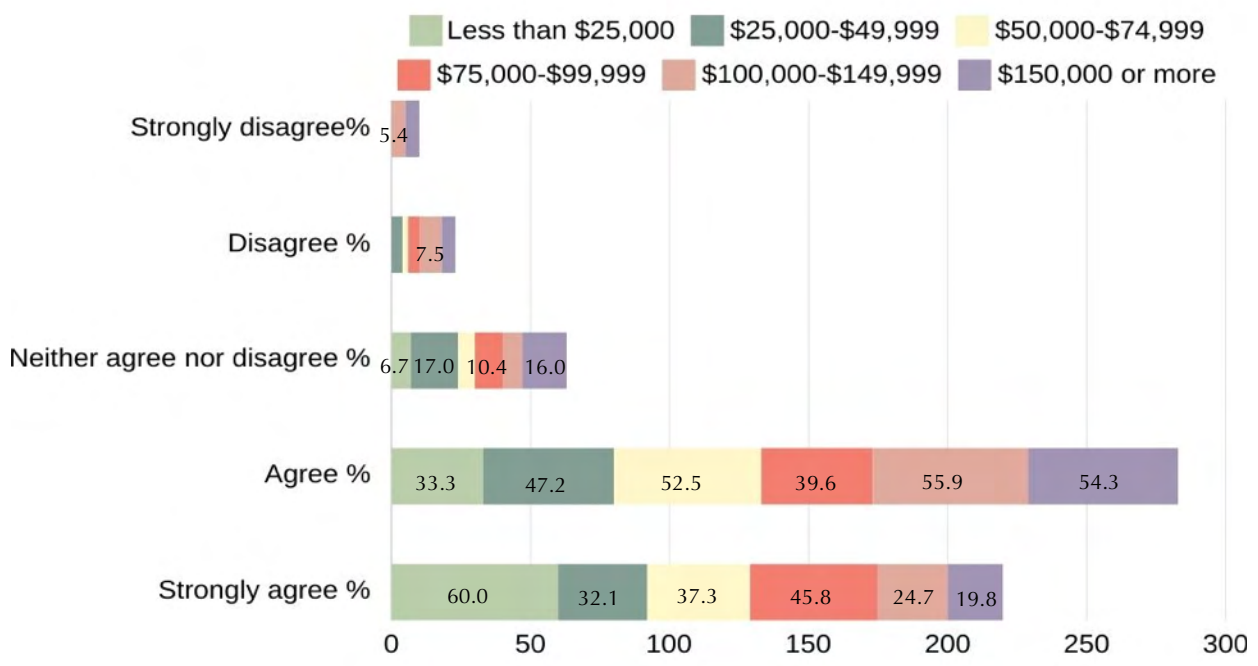




When asked “I am personally interested in learning more about sustainable floral design,” post hoc analysis (LSD) indicated there was a difference in the way participants that that identified themselves as making less than \$25,000 and those making more than \$150,000 responded to the question when compared to each other and all other annual household income groups. Individuals that make less than \$25,000 (93.3%) agreed or strongly agreed with the statement at a higher rate when compared to all other annual household income groups. While those making more than \$150,000 (74.1%) agreed or strongly agreed the least when compared to all other annual household income groups.

Table 38 & Figure 38. Frequency statistics indicating significant differences in participant responses to survey question “I am personally interested in learning more about sustainable floral design” based on annual household income.

| Answer Choice              | Less than \$25,000 (n) | Less than \$25,000 (%) | \$25,000-\$49,999 (n) | \$25,000-\$49,999 (%) | \$50,000-\$74,999 (n) | \$50,000-\$74,999 (%) | \$75,000-\$99,999 (n) | \$75,000-\$99,999 (%) | \$100,000-\$149,999 (n) | \$100,000-\$149,999 (%) | \$150,000 or more (n) | \$150,000 or more (%) |
|----------------------------|------------------------|------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-------------------------|-------------------------|-----------------------|-----------------------|
| Strongly disagree          | 0                      | 0.0%                   | 0                     | 0.0%                  | 0                     | 0.0%                  | 0                     | 0.0%                  | 5                       | 5.4%                    | 4                     | 4.9%                  |
| Disagree                   | 0                      | 0.0%                   | 2                     | 3.8%                  | 1                     | 1.7%                  | 2                     | 4.2%                  | 7                       | 7.5%                    | 4                     | 4.9%                  |
| Neither agree nor disagree | 1                      | 6.7%                   | 9                     | 17.0%                 | 5                     | 8.5%                  | 5                     | 10.4%                 | 6                       | 6.5%                    | 13                    | 16.0%                 |
| Agree                      | 5                      | 33.3%                  | 25                    | 47.2%                 | 31                    | 52.5%                 | 19                    | 39.6%                 | 52                      | 55.9%                   | 44                    | 54.3%                 |
| Strongly agree             | 9                      | 60.0%                  | 17                    | 32.1%                 | 22                    | 37.3%                 | 22                    | 45.8%                 | 23                      | 24.7%                   | 16                    | 19.8%                 |







# Conclusion

Environmentally conscious consumers are taking more interest in how the products they purchase are designed and sourced; thus, the ways in which professionals within the floral industry source floral materials, create floral designs, and market and brand their company are increasingly becoming important considerations. Past research has indicated that retail floral providers have the potential to boost economic performance and enhance profitability by using and promoting sustainable design practices to their customers.

The main purpose of this study was to explore the perceptions of environmentalism and the use of sustainable floral design practices within the floral industry to better understand what professionals within the floral industry are currently doing to make their business more environmentally friendly.

Based on the 453 participants that responded to the survey, it was found that 71.3% of participants indicated the business they own or work for have implemented at least one sustainable practice within their business model. The three most common sustainable practices currently implemented in floral businesses are the use of locally sourced flowers (57.4%), recycling of cardboard material (60.5%), and the promotion of the return of containers for re-use (55.6%). However, only 22.1% of participants that indicate the use of sustainable practices promotes the use of sustainable practices to the public through advertising. Past research has found that consumers indicate a willingness to pay a premium for floral designs made using sustainable practices. The fact that most participants that are using sustainable practices within their business are not advertising their green initiatives suggests many floral businesses are potentially missing out on revenue streams by not informing customers of their sustainable practices. Efforts should be made by retail floral providers who have implemented sustainable attributes within their businesses to inform potential customers through as many promotional venues as possible, 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.

While most professionals within the floral industry indicated they were attempting to incorporate sustainable practices within their business, only 40.2% of participants said they were interested or very interested in completing a certification in sustainable floristry. The top two main barriers participants endorsed when considering completing a certification program were the cost of the program and the time involved to complete the program. This would indicate any eco-friendly certification programs for professional florists should keep in mind the costs of the program and length of time a person must dedicate to completing the certification, as well as how participants will access material to complete the certification. Participants from this study indicated on average a willingness to pay \$861.00 for a sustainable certification program and preferred the program to be accessible online and last between 1-3 days.

Results found 46.4% of respondents indicated barriers to adopting sustainable practices within their business. The two main barriers preventing adoption of sustainable floral design methods were indicated as being cost of sustainable products and the design being created requires non-sustainable products to create with no sustainable alternatives. These findings would indicate that additional innovations by suppliers of floral materials are needed so that more sustainable alternatives are available for professional florists when creating a broad range of designs for a variety of different occasions. Additionally, floral educators should consider incorporating lessons focused on sustainable mechanics into their curriculum so that students have a broad understanding of ways in which to create more sustainable designs.

Results from this study indicated individuals most interested in learning about sustainable floral practices and certifications were females and those with college degrees. Efforts towards promoting educational workshops focused on sustainability should be advertised in areas in which individuals within these demographics will most often encounter them.

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