

**Measuring UCF Undergraduate Student's Awareness and Attitude Towards Trees and the  
One Person, One Tree Program**



**Arbor Day  
Foundation®**



Kendall Finley, Enid Rivera, Julian Elkayam and Katelyn Dennaoui

Nicholson School of Communication, University of Central Florida

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Dr. Melissa Dodd

## **Background**

As part of a partnership with Arbor Day, the Orlando Utilities Commission, and the Florida Forest Service, the City of Orlando is working to provide Orlando residents with free trees for their private yards. As reported by the One Person, One Tree website, if every Orlando resident planted a tree, increasing the tree canopy in the city from 25 percent to 40 percent. This would cause the same reduction in CO<sub>2</sub> emissions as taking 40,000 cars off the road (City of Orlando, n.d.).

The Arbor Day Foundation is the largest nonprofit in the world dedicated to planting trees (Arbor Day Foundation, n.d.). Their mission is to “inspire people to plant, nurture, and celebrate trees.” Arbor Day has helped plant over 500 million trees across 50 countries and is aiming to plant another 500 million trees by 2027. The Arbor Day Foundation has had several partnerships, including the #TeamTrees partnership in 2019, which was led by the YouTuber Mr. Beast. Through this partnership, over 20 million trees were funded in just 56 days, becoming the largest crowdfunding effort in YouTube history.

The mission of the Florida Forest Service (n.d.) is to “protect and manage the forest resources of Florida, ensuring that they will be available for future generations.” Over 1 million acres of Florida state forests are managed by the Florida Forest Service. Part of their services include offering technical information along with grant programs to interested landowners who want to improve their forestland. Additionally, the Florida Forest Service works towards wildfire prevention and suppression to protect homeowners from the threat of wildfires (Florida Forest Service, n.d.)

The Orlando Utilities Commission (OUC) is a public utility that provides water and electricity to Orlando, as well as other parts of Orange County. According to the OUC (n.d.) their

mission is to “provide exceptional value to our customers and community through the delivery of sustainable and reliable services and solutions.” OUC has worked towards other green initiatives, such as investing in solar on bus shelters and utility poles (Orlando Utilities Commission, 2023). In another partnership with the City of Orlando, OUC helped place H<sub>2</sub>OUC hydration stations in parks, community centers, and neighborhood centers across the city of Orlando.

The mission of the One Person, One Tree program is to transform Orlando’s urban environment to conserve, preserve, and reuse valuable resources to ensure a liveable and lively city for generations to come (City of Orlando, 2023). According to the One Person, One Tree website, the benefits of trees include reduced energy costs, reduced urban heat, cleaner air, increased property value, providing habitats for wildlife, and reduced driving speeds.

### **Developmental Research/Situation Analysis**

The City of Orlando, in partnership with the Arbor Day Foundation, Orlando Utilities Commission (OUC), and the Florida Forest Service, has embarked on the "One Person, One Tree" initiative. This program is poised to enhance urban greenery and sustainability in Orlando significantly. This initiative aims to engage with the student body at the University of Central Florida (UCF), a demographic that represents a new generation of environmentalists.

#### ***The Critical Role of Urban Forests in Mitigating Climate Change***

Urban forests play a crucial role in climate change mitigation, with the Florida Forest Service managing extensive state forests that contribute significantly to carbon isolation and ecological balance (Florida Forest Service, n.d.). The Arbor Day Foundation underscores this through its global tree-planting efforts, emphasizing the importance of urban trees in reducing

CO2 emissions (Arbor Day Foundation, n.d.). These efforts align with the findings of the U.S. Forest Service, which highlight the substantial contributions of urban forests to carbon storage and energy conservation (U.S. Forest Service, n.d.).

### ***Health and Societal Benefits of Urban Green Spaces***

The "One Person, One Tree" initiative aligns with the recognized benefits of urban green spaces in enhancing community well-being. The City of Orlando's initiative aims to increase tree canopy coverage, thereby improving air quality, reducing urban heat, and enhancing community health (City of Orlando, n.d.). Research by Green Earth further confirms that there are mental and physical health benefits from green spaces, providing a solid foundation for this program (Green Earth, n.d.). Another benefit of urban green spaces in cities is giving city residents spaces to engage in social and physical activity (Lee et al., 2015).

### ***Youth Engagement and Climate Change Awareness***

A critical aspect of this initiative is the engagement of young adults, particularly university students. Pew Research Center's studies reveal a heightened concern for climate change among Gen Z and Millennials. However, these demographics show a gap in translating concern into action, indicating a need for more targeted information and resources (Funk et al., 2021). The "One Person, One Tree" program aims to bridge this gap, targeting UCF students to convert their environmental concerns into tangible actions.

### ***Urban Forestry Challenges and Strategic Engagement***

Urban forestry sustainability faces challenges due to urban development and climate change. The commitment of OUC to sustainable solutions resonates with the goals of the "One Person, One Tree" program (OUC, n.d.). The report from Climate Central on the power of urban

trees highlights the importance of urban forestry in mitigating urbanization and climate change impacts (Climate Central, n.d.).

The "One Person, One Tree" initiative represents an essential component of Orlando's environmental strategy, emphasizing the involvement of UCF students in urban forestry. The proposed research aims to develop effective approaches for student engagement, transforming environmental awareness into concrete actions. This program demonstrates the collaborative potential of educational institutions, government entities, and non-profit organizations in driving impactful environmental change.

### **Research Questions/SMART Objectives**

The focus of this research is to assess the awareness of UCF undergraduate students regarding the benefits of trees, and if they are aware of the One Person, One Tree program offered by the City of Orlando. By assessing levels of awareness, and student attitudes towards trees, the City of Orlando can better understand how to reach their target audience and increase interest in the program.

**OBJECTIVE 1:** Raise awareness among UCF undergraduate students about the need for trees and the positive benefits they provide from neutral (M=3.69 student survey) to strongly agree (M>4.5) by December 2024 through social media campaigns, virtual educational webinars, and tabling at Market Day and other events at UCF. This will be evaluated with a pre-post survey method.

**OBJECTIVE 2:** Raise awareness among UCF undergraduate students about the One Person, One Tree program from strongly disagree (M=1.24) to strongly agree (M>4.5) by December 2024 through social media campaigns, free information sessions, tabling at Market Day and

other events on the UCF campus, and a voluntary online educational course on trees that awards students with a free potted tree and a free t-shirt. This will be evaluated with a pre-post survey method.

**OBJECTIVE 3:** Distribute 1,000 free trees to UCF undergraduate students by December 2024. This will be measured by maintaining sign-up sheets that students must fill out to receive a free tree. Students will be able to opt-in to receive emails from the City of Orlando on the One Person, One Tree program, and other educational programs about trees.

### **Research Methods**

We will be using a mix of quantitative and qualitative research methods. Our goal is to gather and analyze data from a group of randomly selected UCF students and then generalize the results as much as possible to create an effective campaign. Because of this, we will be using the pre-post survey method to analyze how we can accomplish our first and second objectives. This methodological approach works best because the survey method will help us gather data and understand our target audience's beliefs, attitudes, and opinions.

We will randomly select a group to participate in our survey by using systematic random sampling to ensure we have a representative sample. This will help us evaluate the first and second objectives (see Appendix 1 for instrumentation). For our third objective, we will require each person who collected a tree to sign a form, and the number of signatures will be counted. We will also include one open-ended question in the survey. Once we learn what people know about the One Person, One Tree program, it will be easier to evaluate the situation and come up with creative ways to ensure many people want to participate. Using the first survey's results, we will make changes to the campaign. One year after the changes have been made, we will do a

second survey to measure how the audience's attitude about trees and tree maintenance has changed.

This approach fits our research design because we need to know what college students know and feel about the One Person, One Tree program to make it more appealing. Our main point of data collection will be the survey. We will use a Likert-type scale survey because we can compare the responses from the first and second surveys. Our scale will consist of 'Strongly agree, agree, neither agree nor disagree, disagree, and strongly disagree. We believe that this approach is ideal for our research design because it will provide us with valuable insights into college students' perceptions of the program and how we can improve it.

For this method to work, it needs to be longitudinal. The first survey will contain 36 questions and will be distributed to the participating students via email on the first day of class. The survey will be available for two weeks. Once the survey closes to the students, we will begin to analyze the data we received. We will use the results from the Likert-type survey questions for our quantitative data and the open-ended survey question for our qualitative data. After this is done, we will organize a day when the students can pick up one tree for free to plant in their home. Each person who would like a tree must sign their name on a form. At the end of the event, the number of signatures will be counted. One year later, the same students who participated previously will receive another survey via email. The second survey is meant to measure how much they have changed since planting a tree in their home.

Despite there being a few potential limitations with using the survey method. We believe that it is the best way to reach our target audience. Since students are used to taking surveys at the start and end of the year, they are familiar and comfortable with this method. It will also allow us to be more efficient because we will save time by having quick access to the results.

However, using the Likert-type scale can be limiting because people might pick the answer that they believe the most people will agree with instead of picking the true answer they want.

Another reason is that sometimes the responses do not have equal distance, and this will make it harder to select one choice.

### **Sampling Methods**

To increase tree canopies and raise environmental sustainability awareness in the City of Orlando, both the City of Orlando and the Arbor Day Foundation, created the “One Person, One Tree” project. One of our current objectives is to see how this program is impacting UCF students. By understanding their attitudes toward the project, we will be better aware of how we can make it more successful. UCF students hold vast importance in this subject as their large population impacts people and communities around the area.

#### ***Demographic Selection***

“One Person, One Tree” takes place in Orlando, therefore, having one of the largest schools partake in this is immensely beneficial to the project. In addition, many students who attend UCF have shown a desire to learn more about sustainability and ways they can help make change. As you can see, sampling UCF students aligns with the same goal as the “One Person, One Tree” project.

#### ***Lasting Impact***

With nearly 70,000 students, UCF is known for its diversity and constant efforts to improve. Introducing this project to students is the first step in creating environmental awareness for all others around the community to get inspired.

#### ***University Selection***



By selecting an educational environment, we ensure that the people we engage with are eager to learn, and better themselves and the community around them.

To measure the impact the “One Person, One Tree” project has on UCF students, the use of different sampling methods will increase accuracy. This proposal will highlight the three sampling methods, randomized selection, longitudinal study, and stratified sampling.

### ***Random Selection***

UCF students will be randomly selected to complete a questionnaire to evaluate their level of awareness of the topic and likelihood/desire to participate in the campaign.

### ***Longitudinal Study***

This study will take place over the course of one year. During that time, participants' attitudes about the project will be followed. By conducting research for this long, we are improving the quality of our research results.

### ***Stratified Sampling***

We will divide our participants into subgroups based on their year in college, (Freshman, Sophomore, Junior, Senior). Random samples within each group will then be selected, ensuring we get quality results. Based on those results, specific advertising strategies will be created depending on the appeal to each college year.

## **Data Analyses**

By incorporating the use of quantitative and qualitative research methods, we can gather vast information from respondents. The data that is collected will be both categorical and

continuous. Respondents' feedback from the survey will act as the categorical data, and the number of trees given out is the continuous data.

### ***Quantitative Analysis***

Once the responses are acquired from participants, the central tendencies will be identified to categorize the data. After this is complete, we will have each mean, median and standard deviation for each college year. Once this is known, the data between the grade levels will be compared to each other. By doing so, elements such as awareness levels can be compared helping to find patterns within the data. As previously mentioned, this is a longitudinal study. During the time of the campaign, awareness levels will continuously and sporadically be tracked to monitor any changes. Identifying any connections between elements of the completed research will constantly be monitored as this information will help understand the project's engagement between the different college years.

### ***Qualitative Analysis***

An open-ended survey question will be placed at the end of the questionnaire to guarantee participants the place to provide us with any additional information they feel they weren't able to in the actual survey questions. In addition, social media will be utilized to track opinions about the "One Person, One Tree" campaign.

### ***Example Interpretation***

Analyzing quantitative data will allow us to specifically see numerical data about which grade levels are more open to the project, more engaged, etc. Analyzing qualitative data will allow us to hear from those participants and will hopefully help us better understand why a certain college level is that way.

### ***Baseline Data***

Before the program, we have a pre and post-survey that will supply us with trackable data to follow any changes in attitudes and awareness in participants.

### **Discussion**

The "One Person, One Tree" initiative, a collaborative effort between the City of Orlando, Arbor Day Foundation, Orlando Utilities Commission (OUC), and the Florida Forest Service, represents a significant step towards environmental sustainability and community engagement. The program aligns with the shared mission of these organizations to create a more sustainable, liveable, and greener urban environment. This research proposal seeks to leverage this collaborative framework, focusing on engaging the University of Central Florida (UCF) student body to amplify the program's impact.

#### ***Connecting the Program with Organizational Missions***

The initiative resonates with the Arbor Day Foundation's mission to inspire tree planting and nurture a culture of environmental care. The program directly contributes to its goal of planting trees globally by providing free trees to Orlando residents. The Florida Forest Service's commitment to protecting and managing forest resources aligns with the program's aim to expand the urban tree canopy, simultaneously addressing wildfire prevention and habitat creation. Additionally, this initiative supports OUC's mission to deliver sustainable solutions by directly introducing practical, green solutions to the community. The City of Orlando's goal of transforming its urban environment into a sustainable habitat is central to this program. By increasing the tree canopy, the initiative directly contributes to reducing urban heat and CO<sub>2</sub> emissions, aligning with the city's sustainability goals.

#### ***Developing the UCF Partnership***

The partnership with UCF is strategic, considering the substantial interest in environmental issues among Gen Z and Millennial populations. This proposal targets UCF students, a demographic crucial in shaping future environmental policies and practices. The development of educational programming and awareness campaigns at UCF will bridge the gap between interest in environmental issues and actionable steps students can take, aligning with the City of Orlando's vision. This approach includes creating an immersive and practical curriculum on urban forestry and environmental care for UCF students. This curriculum will focus on urban trees' ecological and social benefits, emphasizing practical tree care and conservation techniques. By incorporating these educational elements into existing sustainability courses at UCF or as a standalone certification program, we ensure the initiative's values are deeply rooted in the academic environment, fostering a knowledgeable future. Interactive workshops, seminars, and online modules will be central to this curriculum, making learning about urban forestry engaging and accessible.

### ***Creating a Dynamic Social Media Content Strategy***

Recognizing the power of social media in shaping opinions and behaviors, we propose a robust social media campaign. This campaign will utilize platforms like Instagram, X, and TikTok to give information, share tree care tips, and highlight the environmental significance of the "One Person, One Tree" program. A content calendar will be developed, focusing on key environmental dates and milestones of the program, ensuring a consistent and impactful online presence. Storytelling and compelling visual content will be used to narrate the journey of the program and its participants, making it relatable and inspiring for a wider audience. Social media campaigns and educational content will be crafted to be respectful, informative, and engaging, promoting a culture of positive community interaction and environmental awareness.

### ***Engaging Students in Documenting Their Journey***

Students will be encouraged to document their tree-planting experiences on social media using designated hashtags to build a sense of community and personal investment. Regular photo contests and challenges will be organized, incentivizing students to showcase their efforts in nurturing their trees. Success stories and updates from students will be featured on the official City of Orlando and UCF channels, celebrating their contributions and encouraging a sense of collective achievement.

### ***Conclusion***

The "One Person, One Tree" initiative is an all-around program that aims to enhance the city's environmental health and seeks to engage and educate the community, particularly the youth, about the importance of urban forestry. Through this initiative, we anticipate fostering a culture of environmental awareness and action among UCF students, contributing to the City of Orlando's long-term sustainability goals. This program stands as a testament to the power of collaborative efforts between educational institutions, government entities, and non-profit organizations in driving impactful environmental change.

### **References**

*Editor. (n.d.). The benefits of green spaces and how to create them in cities. Retrieved*

*December 8, 2023, from*

<https://www.green.earth/blog/the-benefits-of-green-spaces-and-how-to-create-them-in-cities>

*Florida Forest Service / Divisions & Offices / Home—Florida Department of Agriculture & Consumer Services. (n.d.). Retrieved December 7, 2023, from*

<https://www.fdacs.gov/Divisions-Offices/Florida-Forest-Service>

*Funk, A. T., Brian Kennedy and Cary. (2021, May 26). Gen Z, Millennials Stand Out for Climate Change Activism, Social Media Engagement With Issue. Pew Research Center Science & Society.*

<https://www.pewresearch.org/science/2021/05/26/gen-z-millennials-stand-out-for-climate-change-activism-social-media-engagement-with-issue/>

*Lee, A. C. K., Jordan, H. C., & Horsley, J. (2015). Value of urban green spaces in promoting healthy living and wellbeing: Prospects for planning. Risk Management and Healthcare Policy, 8, 131–137. <https://doi.org/10.2147/RMHP.S61654>*

*One Person, One Tree. (n.d.). Retrieved December 7, 2023, from*

<https://www.orlando.gov/Parks-the-Environment/Trees/One-Person-One-Tree>

*OUC The Reliable One. (n.d.). Retrieved December 7, 2023, from <https://www.ouc.com/>*

*The Power of Urban Trees | Climate Central. (n.d.). Retrieved December 8, 2023, from*

<https://www.climatecentral.org/report/the-power-of-urban-trees>

*Tree Planting Nonprofit | Arbor Day Foundation. (n.d.). Retrieved December 7, 2023, from*

<https://www.arborday.org/>

*UCF Facts 2022-2023 | University of Central Florida—Orlando, FL. (n.d.). University of Central Florida. Retrieved December 7, 2023, from <https://www.ucf.edu/about-ucf/facts/>*

*Urban Forests and Climate Change | Climate Change Resource Center. (n.d.). Retrieved December 8, 2023, from <https://www.fs.usda.gov/ccrc/topics/urban-forests>*

## **Required Appendices**

### **Appendix 1**

#### **Pre-Post Awareness Survey**

Hello, [student's first name]. You are being invited to take part in a research study. Whether you choose to participate is up to you. The purpose of this research study is to measure your awareness, attitudes, and behaviors toward trees and the One Person, One Tree program in Orlando. This will help us to determine how to increase awareness of the One Person, One Tree program and help increase the tree canopy in the city of Orlando. Your cooperation is greatly appreciated.

You will be asked to take this questionnaire one year after you initially complete the questionnaire to gauge any differences in levels of awareness. Your name and other personally identifiable information will not be used in the final report. Your anonymity will be maintained at all times throughout this process.

1. Are you aware of the benefits of trees? (Yes) (No)

For the following questions, please respond with the extent of your agreement to the following statements, where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

**The benefits of having trees include:**

2. Reduced energy costs.
3. Reduced urban heat.
4. Cleaner air.
5. Increased property value.
6. Providing habitats for wildlife.
7. Reducing driving speed.

**Tree Awareness Items**

Please respond with the extent of your agreement to the following statements.

Strongly Disagree (1); Disagree (2); Neutral (3); Agree (4); Strongly Agree (5)

8. I am informed about the environmental benefits of trees.
9. I am informed about the health benefits of trees.
10. I am aware of tree-planting organizations, like the Arbor Day Foundation.
11. I am aware of local tree-planting programs in the city of Orlando.

**Attitudes Items**

Please respond with the extent of your agreement to the following statements.

Strongly Disagree (1); Disagree (2); Neutral (3); Agree (4); Strongly Agree (5)

12. Trees are an essential part of nature.
13. I think the city of Orlando would benefit from planting more trees.
14. Planting trees would benefit the environment.



15. Planting trees would benefit the quality of life in a community.
  16. More education on the importance of trees needs to be taught.
  17. Planting trees brings communities together.
  18. Certain types of trees shouldn't be planted in urban environments.
  19. Local government agencies should be involved in tree education programs.
  20. Local government agencies should provide trees to plant in their local communities.
  21. Do you have any additional feelings about trees and their impacts on communities?
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### **Action Items**

Please respond with your extent of agreement to the following statements.

Strongly Disagree (1); Disagree (2); Neutral (3); Agree (4); Strongly Agree (5)

22. I care about the environment.
23. I want to get more involved with taking care of the environment.
24. I want to learn more about how I can help take care of the environment.
25. I have planted a tree.
26. I would be interested in planting a tree.
27. I would volunteer for a tree-planting initiative.
28. I would attend outreach events by the City of Orlando to learn more about trees.
29. I would visit the City of Orlando table at an event to learn more about trees.
30. I would attend an on-campus event about trees if offered by the City of Orlando.
31. I would accept a free tree if the City of Orlando offered me one.

### **Demographic Items**

32. What is your age? (Younger than 18) (18-24) (25-34) (35-44) (45-54) (55+)

33. What are you majoring in? (If you have not declared a major, please type "N/A")
34. What is your gender identity? (Male) (Female) (Non-Binary) (Transgender) (Prefer to self-describe) (Prefer not to answer)
35. Do you identify as Lesbian, Gay, Bisexual, Pansexual, or Asexual? (Yes) (No) (Other) (Prefer not to answer)
36. What is your race? (White) (Asian) (African American) (Hispanic or Latino) (Two or more races) (Other) (Prefer not to answer)

Thank you for your participation in this survey. Your answers will provide insight into how to better educate on the importance of trees in communities and the environment.