

Water Conservation and Extension Participants: An Interesting Synergy¹

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Introduction

Conservation is considered one of the most effective strategies for reducing stress on water resources. The home landscape is a place where there is great opportunity for people to adopt irrigation practices and technologies that conserve water (Hurd, 2006). However, a large proportion of residents lack the required knowledge and skills to adopt some of those practices and technologies. UF/IFAS Extension conducts statewide programs to reduce the strain on water resources and encourage conservation by educating communities and individuals (UF/IFAS, 2011). The purpose of the information summarized here is to provide a comparison of Extension program participants and nonparticipants and provide suggestions for using this information to improve water conservation outcomes.

Using Innovative Methods to Evaluate Urban Water Conservation Programs

Innovative evaluation approaches are needed to demonstrate the impacts resulting from statewide urban water conservation programs. One approach is to compare the personal characteristics and water use behaviors of people who have and have not engaged in UF/IFAS Extension programs. Comparison outside of the Extension context can add power to evaluation efforts because it reduces the

likelihood that respondents are replying because they want to be similar to other Extension program clientele or to please their Extension professional (Condrasky et al., 2010; Mincemoyer et al., 2008).

As a formative evaluation strategy, comparing Extension participants to nonparticipants can reveal ways to modify programs, better meet the needs of existing participants, and target nonparticipants. This type of research is common in the commercial marketing field, where the results of a comparison can provide a straightforward insight into purchasing behavior (Suh 1972). It is also common in social marketing research, where results can reveal important information pertaining to environmental behaviors (e.g., see Warner et al., 2023). As a summative evaluation strategy, comparing Extension participants to nonparticipants can demonstrate the impacts UF/IFAS programs are making on water resources in Florida.

Understanding Differences Between Extension Participants and Nonparticipants

When individuals have positive attitudes, strong social support, and adequate knowledge and skill about good irrigation (water conservation) practices, they are more likely to adopt them (Ajzen, 1991). We used a survey of Floridians

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to compare attitudes toward good irrigation practices, social support for engaging in good irrigation practices, knowledge and skill surrounding good irrigation practices, and actual use of the irrigation practices and technologies encouraged by UF/IFAS (Warner et al., 2016). We asked 653 Floridians if they had participated in any UF/IFAS urban water conservation Extension programs (Florida-Friendly Landscaping™, Master Gardener Volunteer Program, Master Naturalist Program, Sustainable Floridians). Of these, 199 had participated in at least one of these programs and were considered Extension participants, while the 454 who had never participated in these programs were considered nonparticipants. A summary of the results follows.

- **Attitudes.** There were very positive attitudes towards water conservation, and there was no difference between Extension participants and nonparticipants.
- **Knowledge and skill.** Knowledge and skill were also fairly high, and there was no difference between Extension participants and nonparticipants.
- **Social support.** Extension participants indicated that they had more social support for engaging in good irrigation practices than nonparticipants.
- **Use of good irrigation practices and technologies.** Extension participants were more likely to be engaged in using most of the water conservation practices and technologies disseminated by UF/IFAS. The biggest differences we found were related to technology installation (i.e., drip irrigation, soil moisture sensors, rain barrels) and landscape modifications (i.e., converting turfgrass to landscaped beds or retrofitting landscape so that a portion is not irrigated).

Both Extension participants and nonparticipants have positive attitudes towards using good irrigation practices, and they also both believe that they have the skill and knowledge needed to install water-saving technologies or adopt conservation behaviors. However, Extension participants are surrounded by peers, friends, and family who expect them to engage in water conservation in the home landscape. Extension participants are also more actively engaged in using technologies and practices that allow them to use less water in their home landscape.

We do not know whether Extension participants are more likely to conserve water because of the water-conservation-savvy people already around them, or if they tend to surround themselves with like-minded individuals. This study did not tell us whether the differences we identified mean different types of people are seeking out UF/IFAS urban water conservation programs or if our programs

are responsible for these distinctions. It is most likely a combination of all of these possibilities. The Extension participants could have engaged in a variety of different programs that ranged from short workshops to multi-week or longer classes. Future research may explore the different program types and should also be replicated to establish if the identified relationships persist.

How to Use This Information

Extension professionals who work on urban water conservation should consider the following:

- Lack of positive attitudes, skill, or knowledge is not preventing people from engaging in water conservation. Therefore, Extension activities need to be designed to go beyond providing information, raising awareness, or building support—these factors are already in place. Extension can go beyond these outcomes by focusing on encouraging behavior change and developing social support systems. One approach that may be useful is social marketing, which changes behaviors using audience research and tools, such as social norms, from commercial marketing (Warner et al., 2022; Warner & Monaghan, 2014).
- Social support is an important factor in whether someone uses water conservation technologies and practices. Therefore, Extension may be playing a role in building social support networks that promote water conservation. Extension programs should focus on building social support that leads to increased adoption. Extension professionals could target people who have not previously engaged in our programs by partnering with community members to make conservation practices more visible and build social norms around water conservation. See [Social norms for behavior change: A synopsis](#) for more about social norms.
- Extension participants are using more water conservation technologies and practices, especially those that require equipment installation or complex landscape modification. As an evaluation finding, this could mean Extension is bringing about positive change in the communities we serve. Because nonparticipants are likely to use less complex water conservation practices and technologies, programs targeting new clientele should first focus on simpler changes and then integrate more complex behaviors.
- There are positive characteristics and changes associated with being an Extension participant. Therefore, Extension should be more intentional about targeting new clientele. Extension can partner with other organizations who are

reaching people we are not, especially in the urban Extension context where many potential partner organizations are active.

Conclusions

Comparing Extension participants to nonparticipants may reveal how UF/IFAS urban water conservation programs are performing and provide information on how to change existing programs as well as target new Extension clients. Urban water conservation programs that build social support will be more effective in encouraging the adoption of behaviors and technologies.

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