

The Role of Gardening Activities on Resilience Quality of Life (Especially During the COVID-19 Pandemic)

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ABSTRACT

Gardening activities provide important benefits for people and ecosystems and are an important way for communities to get physical exercise, reduce stress, and connect with nature. The purpose of this research is to assess 1) the role of private yard and community gardens as a way for people to cope with the COVID-19 pandemic including their choice of plants, perceptions, and overall outlook on the role of gardening activity on their quality of life during the pandemic and 2) to assess any changes in consumers' purchasing habits. Intercept surveys were used to collect data at 3 garden centers/nurseries in Florida – Garden Gate Nursery (Gainesville, FL), Rockledge Gardens (Rockledge, FL) and Flamingo Road Nursery (Davie, FL). A total of 257 surveys were completed. We found that most people use their gardens as a place of beauty (90%), a place to observe nature (77%) and a place to promote natural

biodiversity (42%). Although there are social distancing requirements because of COVID-19 pandemic, 65% of respondents still purchased their plants in-person. Respondents also indicated that gardening provides social connectivity as 61% strongly agreed or agreed that they liked the social activities connected to gardening, felt connected to other people they garden with (57%) and 55% agreed or strongly agreed they felt a strong sense of community with others who garden. On the other hand, the most common challenges of gardening during the pandemic includes lack of knowledge (51%), insufficient time (42%) and insufficient money to purchase resources (37%). This project can be used to inform policy and educational programming geared towards incorporating gardening to enhance the wellbeing of Floridians.

OBJECTIVES

This proposal assessed:

- The role of gardening activities on wellbeing and as a coping mechanism during the COVID-19 pandemic
- The impacts of the COVID-19 pandemic on the purchasing habits and preferences of consumers including plant preferences and associated connections to nature related to quarantine and stay at home orders.
- The survey will elucidate responses from Floridians about ways gardening may help address their quality-of-life concerns and how FNGLA can help including ways to by creating learning opportunities for example reduce stress via gardening at home, increasing food security via growing fruits and vegetable in home gardens or containers in apartments etc.
- This survey will assess the needs of consumers including plant material preferences, product delivery options, topics or skills related to gardening that they could help them strengthen their resilience and their gardening plans for the future.

METHODS

The research collected data using in-person intercept surveys at 3 garden center sites in the state of Florida. The researchers were stationed at the exit/entrance of selected nurseries and garden centers associated with the FNGLA chapters. Twelve nursery owners/managers were initially contacted to participate in the study. Three nurseries/garden centers responded with their willingness to serve as study sites for the surveys. These in-person intercept surveys were conducted at 3 locations from each North Florida Chapter, Central Florida Chapter and South Florida Chapter. We collected 104 surveys from Rockledge Gardens (Rockledge, FL), Flamingo Road Nursery (Davie, FL) and Garden Gate Nursery (Gainesville, FL). Prior to collecting data, the research protocol was reviewed and approved by the University of Florida's Institutional Review Board to ensure that the project met the ethical guidelines for research involving human subjects.

The data was collected by two research assistants on a Saturday at each garden site. The research assistants had a table booth, stand for advertising the survey, various seed packets (primarily "Bee Happy" pollinator seed packets) as tokens of appreciation for participants and a letter explaining the purpose of the research for participants to keep. The researchers had printed copies of the survey for consumers to complete. In total, we collected 257 surveys responses including 104 surveys from Rockledge Gardens, 77 from Garden Gate Nursery and 76 from Flamingo Road Nursery. The survey asked questions about 1) gardening experience, 2) motivations for gardening (why)/sense of place, 3) plant purchases and sources of information, 4) knowledge of invasive species and gardening, 5) the impacts of COVID-19 on gardening activities and 6) future intentions related to gardening activities. The completed paper versions of the survey were then individually uploaded into Qualtrics for analysis.

RESULTS

Gardening experience

Of the survey respondents, 92% of them garden in private yard and/or community garden. In terms of gardening experience, 41% have been gardening for more than 10 years, 47% in the last 1-5 years while only 10% started gardening in the past year. Majority of respondents garden in their private home or yard garden (60%) while 15% gardened on a patio or balcony, 17% gardened with indoor plants and 8% gardened elsewhere including at a friend/neighbor/relatives' house, community garden or shared co-op space and volunteer school gardens. The vast majority of respondents participated in container gardening (85%) while others also indicated butterfly garden (40%), organic gardening (27%), vertical garden (11%), water garden (8%) and other types of gardens (24%) for example indoor fruit trees (**Figure 1**).

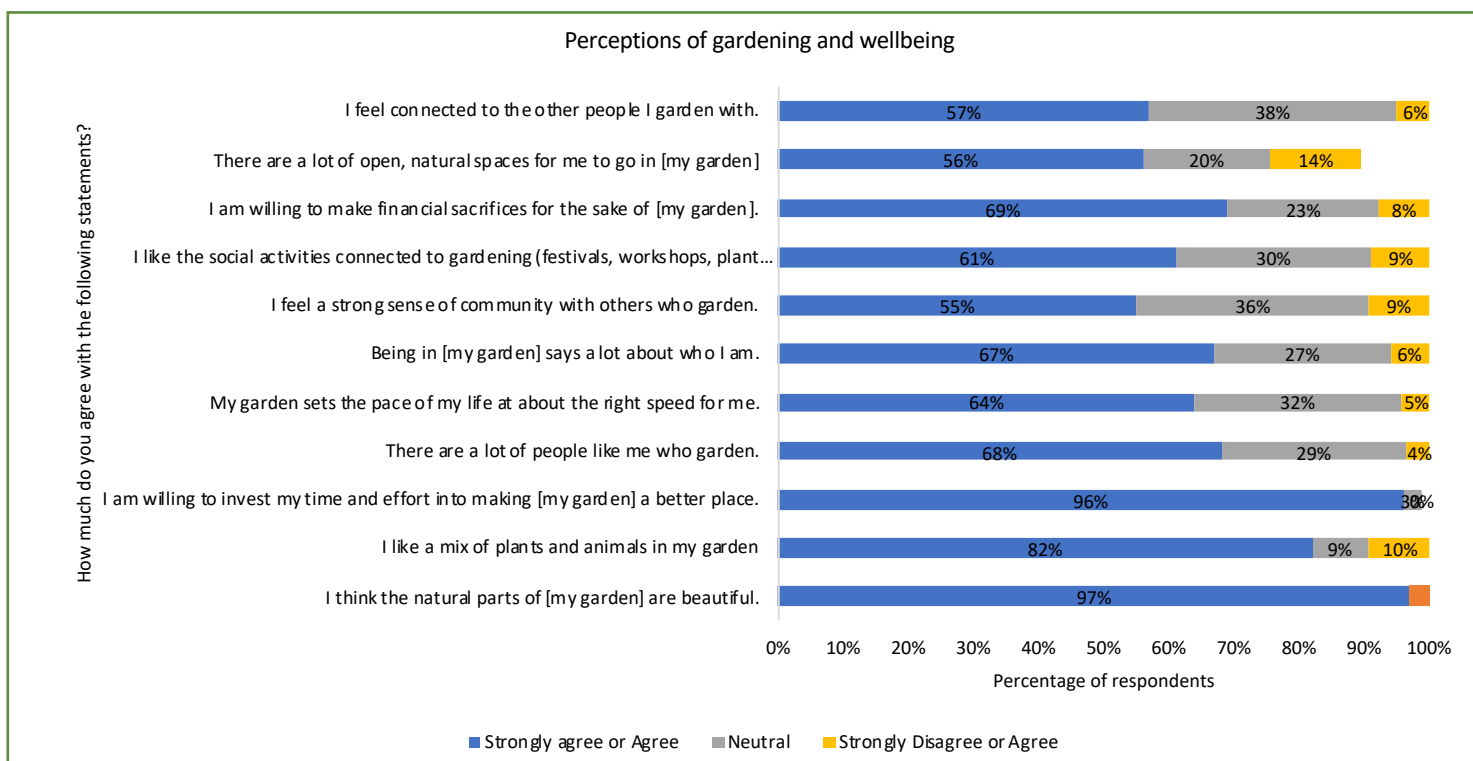


Figure 1. Perceptions of gardening and wellbeing

Motivations for gardening

When asked about their reasons for gardening, the most common responses were for relaxation (77%), to spend time outdoors (65%) and to observe nature and wildlife (64%) (**Figure 2**).

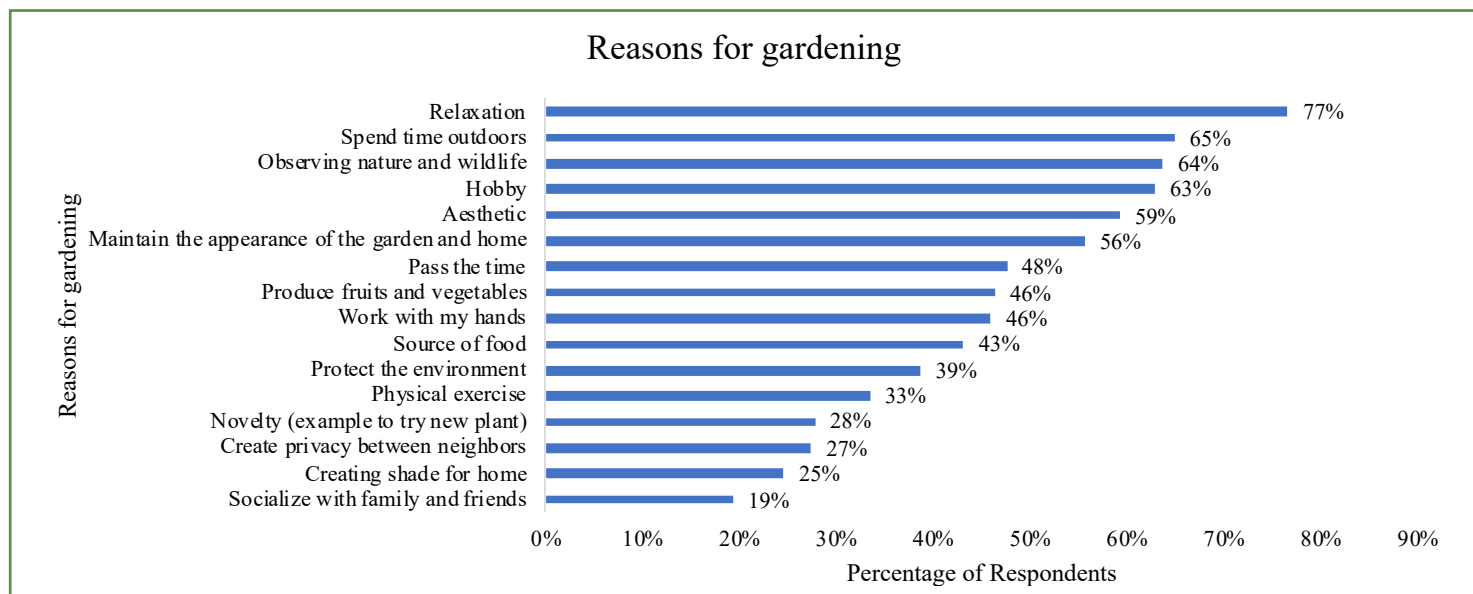


Figure 2. Reasons for gardening overall

Knowledge of invasive species and gardening

When asked about their knowledge of invasive species and gardening, 33% of respondents were moderately familiar with invasive plants (knew about invasive plants but cannot identify specific invasive plant species), 23% had low familiarity (heard of invasive plants but do not know much about them), 23% were familiar (can identify some invasive species), 13% were not familiar and 7% were very familiar.

The impacts of COVID-19 on gardening activities

The COVID-19 pandemic has influenced respondents' gardening activities in various ways. Some of the challenges of gardening during the pandemic includes lack of knowledge (32%), insufficient money to purchase resources (23%), insufficient time (26%) and inadequate space to garden (20%). Despite the regulations regarding social distancing during the pandemic, 87% indicated that they purchased their plants in-person while 21% used online sales, 12% did curbside pick-up, 6% used delivery and 8% called ahead or did other purchasing methods. Overall, most people indicated that during the COVID-19 pandemic, they gardened because it made them happy (79%), provided the opportunity to be out in nature (67%), stress-relief and relaxation (64%) (see **Figure 3**). When asked which resource option would be most beneficial during the pandemic, the top 3 responses were 1) information on the specific types of plants they like to grow (61%), availability of materials for gardening (53%) and information for beginning gardeners (52%) (**Figure 3**).

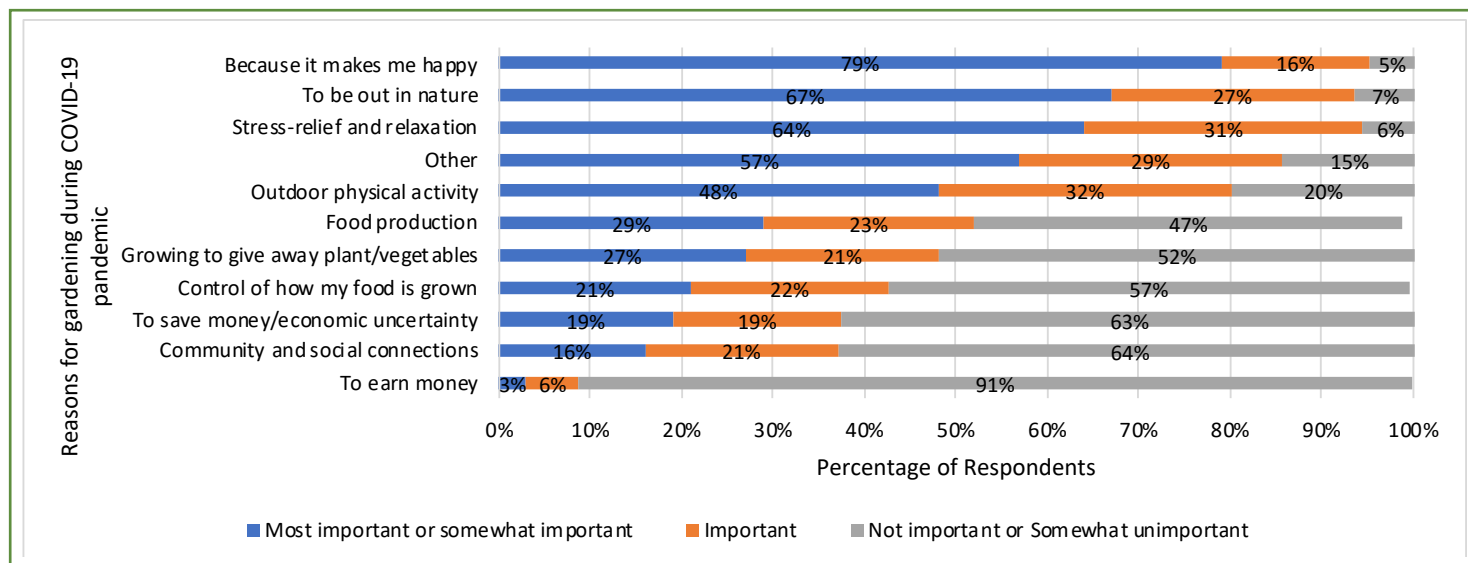


Figure 3. Reasons for gardening during the COVID-19 pandemic

The COVID-19 pandemic has also impacted the wellbeing of respondents in various ways. Seventy-two percent of respondents indicated that it increased their time spent gardening while others expressed that it increased their appreciation for nature (71%), increased their desire to in nature (70%), sense of connectedness to nature (66%), time spent outdoors (61%), and time spent seeking information about gardening (60%). On the other hand, 38% of respondents also indicated that they experience reduced sense of connectedness to others (Figure 4).

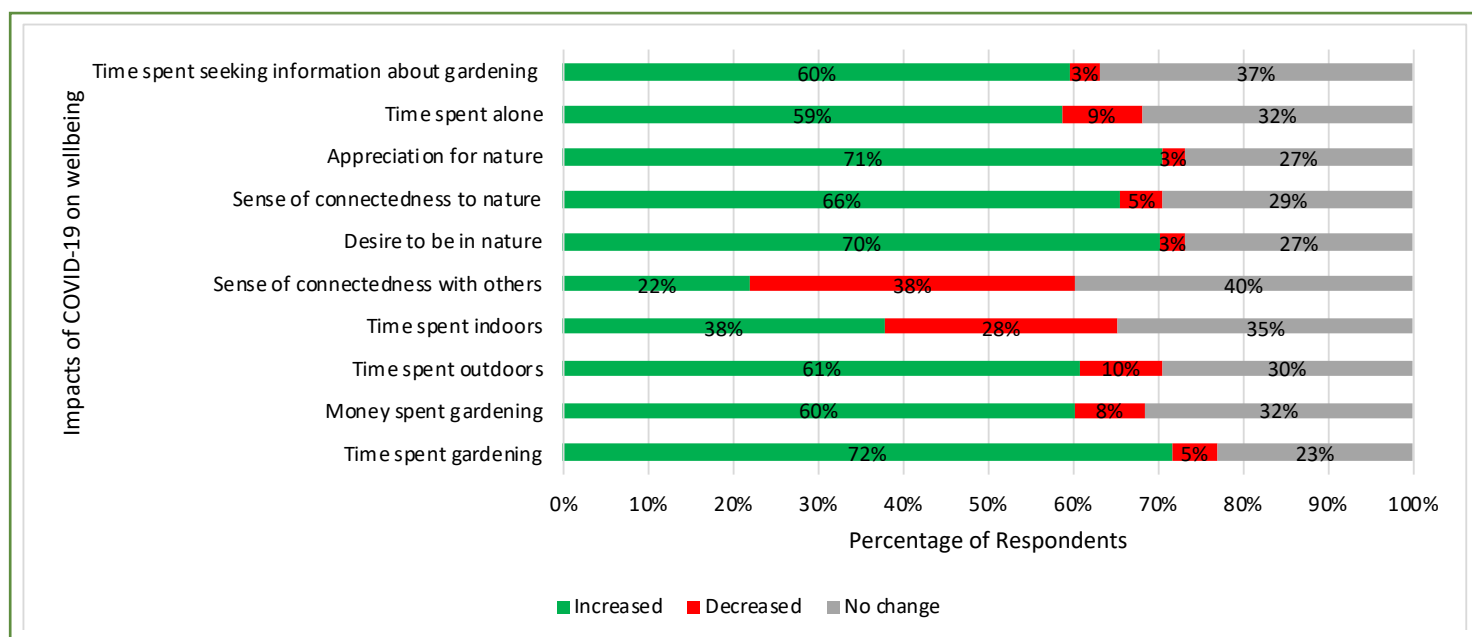


Figure 4. Impacts of COVID-19 on wellbeing

Future intentions related to gardening activities

When asked about their future plans related to gardening activities, respondents expressed interest in a variety of information sources. The top three topics of interest were related to 1) best gardening practices, 2) treatment of plant pests and diseases and 3) gardening in containers 4) invasive species management and 5) gardening in small spaces (Table 1). Respondents' preferences for how the topic related content was delivered varied. Workshops were the preferred delivery method for information about best gardening practices and cooking of garden produce and gardening in containers. On the other hand, videos were preferred for information related to gardening in containers (35%), gardening in small spaces (30%) and treatment of plant pests and diseases (32%).

Table 1. Topics of interest and preferred source of information

Gardening related topic	Workshop	Webinar	Newsletter	Blogs	Video	Not interested
Best gardening practices	39%	33%	26%	21%	33%	16%
Treatment plant pests and diseases	26%	35%	30%	19%	32%	15%
Invasive species management	24%	29%	32%	21%	31%	19%
Gardening in containers	32%	30%	28%	21%	35%	19%
Gardening and mental health	20%	21%	25%	16%	24%	39%
Gardening and stress reduction	22%	23%	25%	18%	24%	35%
Gardening in small spaces	29%	27%	26%	18%	30%	25%
Gardening and physical mental*	17%	23%	26%	17%	25%	36%
Cooking workshops for gardening produce	30%	22%	18%	16%	29%	33%

CONCLUSIONS

Our survey results highlight that gardening plays an important role in people's wellbeing and creates a coping mechanism for Floridians during the COVID-19 pandemic. Although most respondents gardened to relax, spend time outdoors and to make themselves happy, they are also interested in learning more about best gardening practices, treatment of pests and diseases and how to garden in containers. The information produced from this study can be used to better tailor educational programming for gardening enthusiasts, inform policy that can be used to support home and yard gardening not only as a way to promote biodiversity and stormwater management but also to enhance the wellbeing of Floridians.