

### Background

Gardening has a wide variety of benefits that can improve our overall health and wellbeing<sup>2</sup>. It has been shown to reduce pain<sup>5</sup>, improve our mental health<sup>1</sup>, and increase social interaction<sup>3</sup>. Gardening is a physical activity that can also improve our nutrition with fresh fruits and vegetables, both of which help to reduce the risk of chronic diseases such as obesity, diabetes, and heart disease<sup>4</sup>.

However, being faced with physical limitations can make gardening stressful and even painful at times. Individuals of advanced age and with disabilities often encounter barriers to accessing a garden or having the ability to fully experience garden activities. The aim of this project was to provide adaptive tools and techniques to make gardening more accessible to these individuals.

Adaptive gardening is the practice of changing the way we garden so that it can be performed by individuals of any age or mobility level. Adaptive garden tools are ergonomically designed to make gardening easier on our body and more enjoyable. They're made to reduce the stress and strain that we experience while working in a garden. Adaptive gardening also includes utilizing innovative gardening techniques such as raised garden beds to elevate our garden surface and reduce the burden on our body.

### Project Goals

The goal of this project was to establish a collection of adaptive garden tools for individuals who are physically limited, including those of advanced age or those with injury or disability, to use during therapeutic horticulture programs and to try out at home in their own garden.

If we improve access to garden tools designed for people with reduced or limited physical ability, then individuals will utilize the tools and be positively impacted by removing a barrier to activity. By providing therapeutic horticulture programming and an adaptive set of garden tools, we can help individuals gain the skills needed to garden for life.

### Tool Examples

- Long handled and telescoping tools can be used from a seated position to prevent hip and back strain.
- Gloves with Velcro straps can hold the tool in your hand if you've lost any hand strength due to a spinal cord injury, stroke, or carpal tunnel.
- Tools with forearm cuffs are useful if you have arthritis and experience wrist pain.
- Several kneeling pads are available to protect our lower extremity joints.



### Methods

1. Participants were presented information about adaptive garden tools and therapeutic horticulture:
  - a. Health benefits of gardening and therapeutic horticulture
    - i. Social, intellectual, physical, emotional, and spiritual benefits
  - b. Garden design, plant selection, effort reduction techniques
  - c. Ergonomic and adaptive garden tools
  - d. Cost effective ways to improve current tools
  - e. Injury prevention and healthy gardening habits
2. The tools were introduced and demonstrated, then participants had the opportunity to handle the tools and try them out
3. The project was explained along with the informed consent and any questions were answered
4. Survey was distributed and data was analyzed

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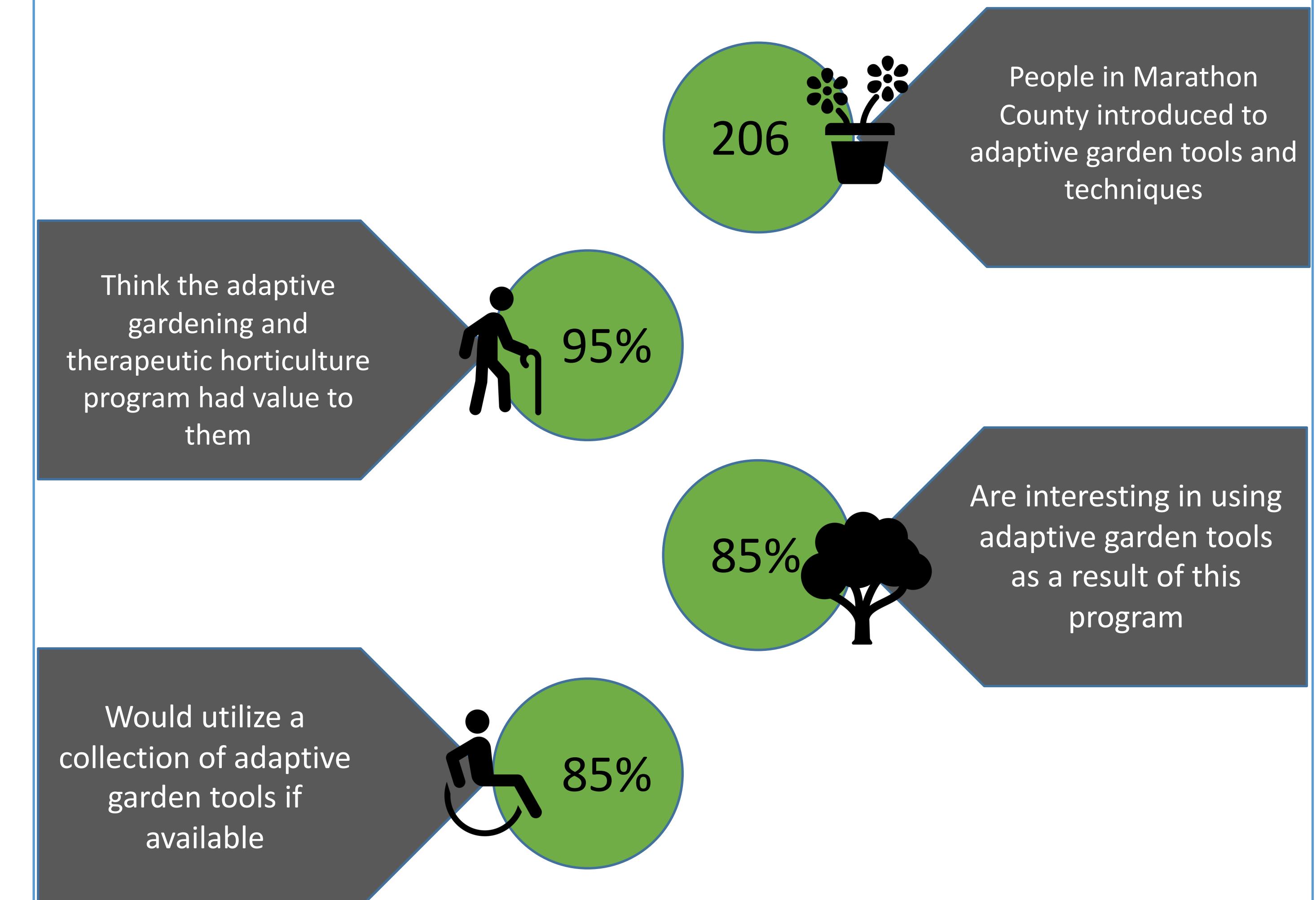
### Participant Comments

*"I wasn't aware of so many tools which assist us in gardening."*

*"I bought the ergonomic watering can from your presentation and it's already helped my back pain"*

*"I've been trying to make gardening easier so I can continue to garden for a long time in the future – these tools will help"*

### Results



### Future Directions

- There are two complete sets of adaptive garden tools. One will be stored at Marathon County Public Library and tools can loaned out by individuals, just like other library resources. The second set will be at Midstate Independent Living Choices and available for loan by anyone in the state of Wisconsin through the assistive technology program, AT4ALL.
- Informational booklets will be included with each set that details the tool uses, health benefits, cost, and where each item in the set can be purchased.
- A cleaning protocol will also be included with each set of tools to prevent disease spread between gardens.

### Acknowledgements

Funding: Incredible Bank, Master Gardeners of Northcentral Wisconsin  
 Presentation locations: UW-Stevens Point at Marathon County, The Landing, Marathon County Public Library, Wausau Garden Club, Monk Botanical Gardens  
 Future tool storage and distribution: Marathon County Public Library, Midstate Independent Living Choices

### References

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