CULTIVATE

FLORIDA HORTICULTURE FOR HEALTH NETWORK

Winter 2026 Volume 6 Issue 1 FLHort4Health@outlook.com

The Florida Horticulture for Health Network's vision: To promote activities and connect organizations to each other and to resources that use horticulture to improve health including therapeutic horticulture and horticultural therapy, landscapes for health, nature, emerging professional support, allied horticulture and health services, community and school gardens, and food action initiatives.

CONTENTS

Finding Nature's Rhythm: Supporting Autistic Children Outdoors

Text by Patrick Young

Photo by Freepik, C. Luther, P. Cody, V. Klein.Unsplash

Children react differently to environments—some places stir them up, while others draw out calm. Nature offers a rhythm that children on the spectrum can step into at their own pace. Its quiet shifts in light, sound, and texture can bring a kind of order that feels both safe and expansive. When practitioners learn how to open these doors without pushing, children discover ways to connect that don't rely on rigid scripts. The outdoors becomes more than a backdrop; it becomes a partner in growth. And when approached with care, it's possible to shape experiences that meet the child exactly where they are.

Sensory Regulation in Natural Spaces

For many autistic children, overstimulation builds quickly indoors, where artificial lights and layered noise clash without warning. Outside, the environment offers a steadier rhythm. Leaves brushing together, the ground's unevenness underfoot, or the way sunlight shifts slowly across grass can all provide soothing sensory cues. These elements aren't demanding; they invite observation. Research shows that time outdoors calms sensory overdrive, making it easier for a child to breathe and release tension. Practitioners can encourage this by gently drawing attention to textures or sounds the child already gravitates toward.

Motor Skill Development Through Movement

Developing motor skills often requires repetition, but repetition doesn't have to feel dull. Outdoors, there's a built-in playground that challenges coordination without the stiffness of formal therapy. Climbing small hills, hopping between rocks, or simply running across open ground engages muscles and balance naturally. When a child takes on these movements, they're building strength and awareness without feeling coached. The simple acts of climbing and running build gross motor strength, helping children feel more capable in their bodies. Practitioners can frame these activities as adventures rather than tasks. That way, movement practice feels less like work and more like exploration.

Social Comfort in Open Nature Settings

Crowded indoor play areas can quickly overwhelm children who feel unsure in social situations. Wide, outdoor spaces provide a softer setting, one where distance can be chosen and interaction isn't forced. A child might watch peers from the edge of a field, then step closer when curiosity outweighs hesitation. These gradual approaches can build confidence without pressure. Natural areas invite encounters that are brief and low-stakes, like sharing a swing or pointing out a butterfly together. What feels impossible indoors can feel approachable when framed by sky and trees.

Imaginative Play Sparked by Nature

Imagination often blooms from simple materials, and nature is a master provider. A stick becomes a conductor's baton, a dragon's tail, or a drawing tool in dirt. Stones can transform into stepping games or markers for a made-up map. For autistic children who sometimes struggle with pretend play, natural materials offer prompts that don't overwhelm. They are open-ended yet grounding, holding just enough structure to spark creativity without chaos. As children engage, their communication skills stretch too, since every invented scenario comes with new words and roles. The process proves that nature invites endless imaginative scenarios, letting play and learning merge seamlessly.

Emotional Regulation Through Natural Exposure

Stress for autistic children often shows in sharp bursts, such as meltdowns that seem sudden but are built on layers of tension. Natural exposure can release that pressure before it spikes. Even a brief pause under a tree or a moment spent watching moving clouds can shift a child's state. This is less about distraction and more about resetting the nervous system. Practitioners who weave nature into sessions often notice children finding new ways to self-soothe. Studies show that nature offers a restorative emotional pause, which can steady mood and reduce anxiety. It's not a cure, but it can be a practice, one that helps children return to tasks or interactions with greater calm.

Plants and Horticultural Therapy

Some children need structured ways to engage with nature, and horticultural therapy and therapeutic horticulture provide just that. Tending to plants gives kids tangible steps, such as digging, watering, and watching growth, that link action with outcome. For autistic children, these cycles bring clarity and comfort. They learn to notice details over time, track changes, and take pride in care. The work is slow and repeatable, offering a rhythm that's reassuring rather than demanding.

Staying Rooted in Simple Practices

Not every session allows for big therapeutic activities, and that's okay. Sometimes the best step is the smallest one, like walking in nature. These short walks provide both movement and exposure to nature—trees, birds, shifting skies—that can ground an overstimulated child. There's also the added benefit of sneaking in light physical activity, which supports health without overwhelming schedules. On days when energy is low or routines are fragile, these walks act as anchors. They're reminders that connection to nature doesn't always require forests or fields. The steady rhythms of simply walking keeps things grounded, offering stability even in life's busiest or most challenging moments.

Nature isn't a one-size-fits-all therapy; it's a palette of possibilities. For some children, textures and sounds restore sensory balance. For others, outdoor movement brings newfound strength and confidence. Still others find in open spaces the courage to approach peers or the freedom to imagine new worlds. And for many, just a few moments with plants or a brief walk can steady the day. Practitioners can use these as invitations to unlock something powerful. Nature doesn't ask children to change, it bends to meet them, making growth feel natural, gentle, and deeply human.

Patrick Young is an educator and activist. He believes people with disabilities must live within a unique set of circumstances--the outside world often either underestimates them or ignores their needs altogether. He created Able USA to offer helpful resources to people with disabilities and to provide advice on navigating various aspects of life as a person with disabilities.

THAD Therapeutic Horticulture Activity Database

Activity: Nature Goal: Sensory Populations: All

TH Activity Plan – Outdoor Obstacle Course: Swinging & Spinning

Text by Greg Stivland, OTR/L, HTR
Photo by Autism Wiki
Original Publication: Stivland, G. (2024). TH Activity Plan – Outdoor Obstacle Course: Swinging & Spinning. *University of Florida Therapeutic Horticulture Activities Database.*

Materials

Outdoor or garden area

Written instructions for each station's tasks

Nature Collage THAD materials list –see link

ACTIVITY DESCRIPTION: Participate in an obstacle course that provides fun interactions with plants.

THERAPEUTIC GOALS:
Cognitive/Intellectual: Practice reading skills; complete all tasks; practice remembering instructions (or going back to re-read instructions)
Physical: Increase physical activity swinging, spinning, & bear walking
Psychological/Emotional: Build self-confidence in physical abilities; connect with nature & plants
Sensory: Regulate sensory response through swinging, spinning & bouncing; stimulate the senses through touch, vision, smell, & movement
Social: Practice taking turns

STEP-BY-STEP PROCESS:

1. **Pre-Session Preparation:** Examine & mark if necessary, boundaries where activity will occur. Identify & set up stations near plants that will be explored (touching, smelling, selecting). Write instructions for obstacle course & each station's tasks, placing these where they can be seen. If combining obstacle course with plant collage, gather these materials and read THAD instructions .
2. Facilitator begins session by introducing outdoor obstacle course (see below for description of physical tasks).
3. Facilitator identifies obstacle course's physical activities & plant tasks for each station (smelling, touching, swinging). Facilitator shows samples of plants that will be at the various stations. Written instructions for obstacle course at each station are in place where they can be seen or reviewed. If this activity does not include the *Nature Collage* activity, plants are used for touching, smelling & locating stations. Participants do not pick or take plant material.
4. Rules are reviewed with participants such as staying with the class in the designated area, smelling but not eating items, and staying away from large ant hills.
5. Adults lead participants to the outdoor areas.
6. This outdoor obstacle course can be combined with THAD Nature Collage.

Outdoor Obstacle Course Stations (3 or more)

1) **Swing** 10 times (on playground swing) (at maple tree – touch the leaves, look at colors)
2) **Spin** on "merry-go-round" 10 times (or spin to the left 5 times and spin to the right 5 times) (at pine tree – touch the pine needles, smell fragrance)
3) **Bear walk** (walking with hands and feet on the ground) on grass (or sand or pine straw etc...) for 30 seconds (at flowering shrub – look at blossoms, smell them, remember flower shapes)
4) Other physical tasks could include bouncing on a therapy ball, jumping up & down or jumping jacks, rolling on ground, somersaulting, balancing on one leg, touching hand to nose with/without eyes closed, stepping over logs, raking leaves into a pile, digging & filling a sand pail, skipping around the tree 5 times.

APPLICATIONS FOR POPULATIONS: Incorporating an outdoor obstacle course into a TH session can connect physical activity, techniques for addressing appropriate sensory responses and integration of mind-body efforts, nature engagement used for health purposes, and therapeutic intervention. People living with an autism spectrum disorder, people with ADHD, developmental delays, and others, may benefit from participating in this type of physically active TH activity.

Adding movement and engaging the muscles in this way adds additional strategies to support physical development as well as self-regulation including opportunities to activate the vestibular system (moving the head in a variety of positions), proprioception (or heavy work activities that activate the muscles), and body awareness (noticing textures and sensations when moving across surfaces with different textures) in addition to regulating sensory responses by spinning, swinging and bouncing.

SAFETY CONSIDERATIONS: Facilitators are responsible for knowing poisonous and toxic plants and plant parts. Talk to the classroom teacher or group leader about a safe outdoor location or completing this activity indoors based on participant and group strengths and needs (including insect bites and allergies). Ensure the area where students/participants will be is free of toxic plants, excessive amounts of insects and ant hills, with no tripping hazards. Avoid plants with excessive sap, thorns or sharpness. Sun protection and access to drinking water is recommended.

NOTES OR OTHER CONSIDERATIONS: If plant material is high, such that participants can't easily reach and touch leaves or flowers at the designated stations, and to avoid damage to plants, samples of the leaves, flowers, or stems can be available in baskets located beside the plant, and near the written instructions.

This activity can be done in conjunction with a nature collage using cardboard templates and plant materials inserted into cardboard to create a nature artwork. Therapeutic goals include developing bilateral hand use, and hand-eye coordination. Combining *Nature Collage* with an *Outdoor Obstacle Course* offers a range of therapeutic activities and goals, and can be adapted to suit participants of all ages, abilities and delivery sites.

REFERENCES/ RESOURCES:

Berger, R. (2023). The benefits of obstacle courses.
Kinsner, K. (May 2019). Rocking and rolling. Fresh air, fun, and exploration: Why outdoor play Is essential for healthy development. *National Association for the Education of Young Children.*

Edits were made for THAD purposes in 2024.
TH Activity Plan form developed by Lesley Fleming, Susan Morgan and Kathy Brechner (2012), revised in 2024.

Greg Stivland, OTR/L, HTR, works in a public-school setting and is the current Treasurer and incoming President of Carolinas Horticultural Therapy Network.

Series: Part 5 of 5

Practitioner Tool: Therapeutic Horticulture Goals with THAD Activity Examples: Social Domain

Text by Lesley Fleming, HTR
Photo by OregonLive.com

"Social functioning encompasses social skills, social behavior, cognition, and communication essential during inter-personal interactions. The fields of psychology, neuroscience, education and mental health identify social interactions, and challenges or deficits to these as important throughout the lifespan (Cordier et al., 2015). Therapeutic services addressing challenges in the social health domain are critical" (Fleming et al., 2024).

This health domain and challenges related to social functioning are broad. They include facets of wellbeing in addition to dysfunction related to interpersonal interactions, lack of self-awareness, social awareness, and socially appropriate behavior. Social emotional learning, its dimensions, and strategies like positive action and conscious discipline are being integrated more broadly across sectors in educational and health interventions, including HT/TH, because of the important role social functioning plays in human health (Grimes, 2024; CASEL, 2020; Conscious Discipline, n.d.; Fleming et al., 2024). Self-regulation is another health area that is receiving more attention within HT/TH practice, one that recognizes autonomic inputs affecting social behavior as well as personality, disposition, temperament, culture, and family history (Cordier et al., 2015; Fleming et al., 2023). The type and variety of social domain therapeutic goals is broad.

"Therapeutic goals are an essential component of therapeutic horticulture practice. In this final article of the 5-part series, therapeutic goals are identified by the social health domain, intended to be used as an index for identifying possible goals. Previously published articles have covered

cognitive/intellectual, physical, psychological/emotional, and sensory health domains. In each article and domain, examples from THAD (therapeutic horticulture activities database) have been selected to demonstrate applications for use in therapeutic horticulture interventions.

Setting therapeutic goals is based on client assessment and need, working toward specific outcomes, which can be measured informally or clinically charted. Achieving desired health outcomes requires intention, therapeutic techniques and client engagement.

Therapeutic goals can fall into more than one health domain. The THAD examples identify multiple therapeutic goals in each of the five domains for each activity, though typically only one or two would be emphasized in a given session.

A *Journal of Therapeutic Horticulture* article, Therapeutic Horticulture and Its Therapeutic Goals: Expanding the Scope and Practice Through the Therapeutic Horticulture Activities Database and Its Use of Health Domain-Specific Goals organizes TH goals also using health domains, referring to functional and goal areas, not specific therapeutic goals (Fleming et al., 2025).

This series—Practitioner Tools—identifies specific therapeutic goals intended to expand practitioner knowledge and applications" (Fleming, 2025a, b, c, d).

Social Health Domain: Therapeutic Goal + THAD Activity Examples

Goal Areas	Therapeutic Goal	THAD Examples
Personal	Work independently reducing the number of cues	Father's Day Cards Featuring Plants & Puns (Fleming, 2025)
	Demonstrate responsible behavior, decision-making	Harvesting Herb Seeds for Culinary Activities (Fleming & Relf, 2023)
	Practice socially-appropriate dress, grooming & attitudes for work (& other) settings	Pre-employment Program Activities at Hospital Market Garden (Lindsay & Fleming, 2023)
	Manage social anxiety	Bulb Lasagna Planting (Eleanor Moriarty Wroath, 2024)
	Recognize and practice tolerance of other(s), races, ethnicities, disabilities	Bush Tea (Fleming, 2025)
Community Contributions	Contribute to the community by undertaking community service project	Forget Me Not Flowers, Dementia & Seed Pots (Fleming & House, 2025)

Goal Areas	Therapeutic Goal	THAD Examples
Inter-personal Interactions	Expand social awareness	Ring In the New Year: Plant Connections (Fleming, 2024)
	Practice responding appropriately to social cues	Nature Masks (Haney, 2023)
	Create a sense of belonging	Celebrating Potato Blossoms (Fleming, 2025)
	Promote positive social interactions	Love Letters to a Local Forest (Fleming, 2023)
	Use humor and shared laughter as a coping mechanism in a group setting	Radish Seed Necklace (Willis, Fleming & Carroll, 2023)
	Share personal growth goals, experiences, and discussions with others	Personal Growth Metaphor: Deciduous Fruit Tree Pruning (Hildinger, 2024)
	Share garden space with others as a tool for socialization, cooperation, and community service	Newcomer Plot Gardening on Hospital Grounds (Lindsay & Fleming, 2023)
	Expand social connections	Therapeutic Nature Journalling (Stark, 2025)
	Work cooperatively in a group	Guerilla Gardening (Fleming & Bethel, 2025)
	Practice nurturing skills for plants & people	Repotting Plants (Fleming & Relf, 2023)
	Practice positive relational functioning with family, friends, peers, and supervisor	Tape Bracelets with Flowers (Stivland & Fleming, 2025)
	Practice modulating hypervigilance, anxiety	Stone Angels, Guardian Angels & Behavior (Fleming & Ellis, 2024)
	Use conscious discipline &/or positive action strategies for self-regulating behavior	Georgia Red Clay Soil: A Sense of Place (Fleming & Dorn, 2025)
Communication	Improve communication skills – verbal, body language, eye contact, gestures, posture	Scalloped Edges (Fleming & Hildinger, 2025)
	Reduce verbal and physical outbursts or threats	Drying Herb Flowers (Relf & Morgan, 2023)
	Practice prosocial communication & behavior aligned with social emotional learning	Watering Can Pass-Off (Grimes, 2024)

This listing of goals is not definitive, but is intended to broaden practitioner understanding and application of therapeutic goals for therapeutic horticulture delivered to multiple populations.

Collaboration for Academic, Social and Emotional Learning (CASEL). (2020). SEL as a lever of equity: 5 part webinar series from CASEL. *Conscious Discipline.com.*
Conscious Discipline. (n.d.). Conscious discipline methodology. *Conscious Discipline.com.*
Cordier, R., Speyer, R., Chen, YW. et al. (2015). Evaluating the psychometric quality of social skills measures: A systematic review. *PLoS One, 10*(7), e0132299.
Fleming, L. (2025a). Practitioner tool: Therapeutic horticulture goals with THAD activity examples: Cognitive domain. *Cultivate, 5*(1).
Fleming, L. (2025b). Practitioner tool: Therapeutic horticulture goals with THAD activity examples: Physical domain. *Cultivate, 5*(2).
Fleming, L. (2025c). Practitioner tool: Therapeutic horticulture goals with THAD activity examples: Psychological/emotional domain. *Cultivate, 5*(3).
Fleming, L. (2025d). Practitioner tool: Therapeutic horticulture goals with THAD activity examples: Sensory domain. *Cultivate, 5*(3).
Fleming, L., Diehl, L., Grimes, K. (2024). Therapeutic horticulture and its therapeutic goals: Expanding the scope and practice through the therapeutic horticulture activities database and its use of health domain-specific goals. *Journal of Therapeutic Horticulture, 34*(1).
Fleming, L., Bethel, M., & Roberts, T. (2023). Self-regulation, its neuroscience foundations and horticultural therapy: Growing the connections. *Journal of Therapeutic Horticulture, 33*(1).
Grimes. K. (2024). TH activity plan - Waiting for water chant. *University of Florida Therapeutic Horticulture Activities Database.*

Lesley Fleming, HTR has delivered therapeutic horticulture to a variety of populations using specific therapeutic goals. She has led the THAD advisory team in developing the on-line database of therapeutic horticulture activities and their correlated therapeutic goals across health domains. Leah Diehl, RLA, HTM and Katie Grimes, HTR, MAT contributed to this article. This article is being concurrently published in Nova Scotia Horticulture for Health Network's epub Digging In.

Well Bred Perennials

By Lesley Fleming, HTR
Photos by Garden Center Marketing, Selecta North America,
Chicago Botanic Garden, Heyes Garden Center, All-American Selections

The horticulture industry introduces new plants each year that have been bred with desirable characteristics. Of the organizations that trial perennials, All-America Selections (AAS) is noted for its role in coordinating plant trialing at universities (Ohio State, Colorado State, NC State/JC Raulston, and many others), as well as at public gardens (such as the Dallas Arboretum). Chicago Botanic Garden does its own plant trialing, plant breeding and recognition program as well as participating in AAS plant trialing. Proven Winners, a private company and one of many, release and feature its own plant introductions. Perennial Plant Association (PPA) selects one perennial plant to feature each year - some of the Perennial Plants of the Year are specific varieties/cultivars, while some are just straight species - all of which have usually been around for quite a while and are tried and true, evaluated by PPA committee members in their own perennial gardens over several years.

These plant recognitions feature improved specimens, better suited to adapt to heat, drought, pests, and/or have amazing colors, shapes and growth habits. A selection of perennial plants that have been recognized recently includes:

Bee Alive Double Orange bidens *(Bidens ferulifolia* 'Balbidbador') is a 10" specimen that flowers all season, attracts butterflies and bees with a burnt orange fringed center accenting petals that fade golden (left). It is one in the Bee Alive series that also includes Bee Happy Double Orange.

Capitan™ Magnifica dianthus (*Dianthus* spp. 'KLEPP23480'), an All-American Selections award winner, performs well in heat. Interspecific breeding has given it more heat tolerance, with a greater number of pink blooms than other dianthus varieties (right) (AAS winner, 2025).

Clustered Mountainmint *(Pycnanthemum muticum)*, has inconspicuous, tiny white to pink flowers, with silver bracts that look like frost in summer. Its characteristics are scented leaves, weed-suppression growth density, and adaptability to open woodlands and meadows that attract pollinators (left) (PPA 2025 Plant of the Year).

Dreameria® Vivid Dreams *(Armeria pseudarmeria)* thrift, with deep purple blooms used in rock gardens or meadows, flowers throughout the season, spring to frost, and is also deer resistant, heat tolerant, and attractive to butterflies (right). From Proven Winners,

this plant series provides frost-to-frost flowering, considered a breeding breakthrough.

***Heliopsis* 'Sole Giatto'** compact false sunflower grows 12-16" with highly floriferous long-lasting yellow blooms spring through fall (left) (AAS Garden Winner 2026). From Kienzler North America.

***Leucanthemum* Carpet Angel**™, a 2023 All-American Selections perennial winner, is a groundcover, day-length neutral flower (earlier blooms throughout season), with large 3" white flowers. Its unique second inner tear has frills on dark green foliage (right).

Marigold Mango Tango (*Tagetes patula*) flower has vigorous yellow and red bicolor blooms that grow 8-10". In some areas it is grown as an annual (left). (AAS Flower Winner 2025 and Fleuroselect Award from European trials).

***Rudbeckia* Claire Orange F1** is the first pollen-free F1 hybrid Rudbeckia in the world. It is a compact, bright clear orange blooming perennial with a central eye without pollen, also noted for its floriferousness, heat and disease tolerance (right) (AAS Flower Winner 2026).

Salvia* Blue By You (Salvia nemorosa* 'Blue by You'), hardy in zones 4b-9a, has repeat blue blooms that thrive in containers, good for cutting and pollination, not favored by deer or rabbits, and is heat-tolerant (left). (AAS Flower Winner 2023).

All American Selections. (2025). Plant with confidence! Introducing the 2025 AAS national ornamental superstars! *All-American Selections.org.*
All American Selections. (2025). 3 new All-American selections winners announced for 2026. *Greenhouse Grower.*
All American Selections. (2025). Search AAS winners. *All-American Selections.org.*
Splan, C. (2024). New plants for 2024. *The American Gardener.*

Lesley Fleming, HTR often selects perennial flowers for her home garden and TH programs for their versatility and reliability year after year. Horticulturist and Therapeutic Horticulture Professional (THP) Susan Morgan contributed to this article, sharing her plant expertise.

Wellness Gardening for Stress Management: Pilot Program 2022-2023

Text by James V. Hatcher, HTR
Photos by D. Hughes.Unsplash & J. Hatcher

Gardening is an ancient, popular practice that crosses all demographic lines such as culture, politics, religion, race, sex, economic status, and educational status (Farrar, 1970; Das & Ramaswami, 2022). Gardeners are diverse, cultivating plants not only for production, but primarily because they enjoy the process. Regardless of results, the act of caring for plants and watching them grow from seed to flower brings satisfaction and a sense of natural relaxation. In addition to social opportunities, this deep connection with nature lowers stress, anxiety, and depression (American Horticultural Therapy Association, 2025; Soga et al., 2017). Considering the significantly increased stress levels people are experiencing and how this can impact the whole health of communities, it is important to examine holistic, economical, and evidence-based solutions (American Psychological Association, 2020; American Psychological Association, 2023; American Psychological Association, 2024a; American Psychological Association, 2024b).

This article will examine the results of a small study involving 7 participants in a pilot program designed and developed by the author, a registered horticultural therapist (HTR), for the purpose of using weekly gardening sessions at a local community garden as a platform for stress reduction.

The Wellness Program for Stress Management began at Plant City Commons Community Garden (PCCCG) in 2022. Seven participants and an assistant, a volunteer registered nurse, were recruited through volunteer efforts, in-person events, and digital marketing ad campaigns. The location featured in-ground gardening beds with automated irrigation, a worm compost bin, a greenhouse, and an arboretum. Program sessions would start in the morning while it was cool. Participants were instructed to anonymously fill out their stress levels before participating in 90 minutes of activities. A stress PING (Point in Time Gauge) submission of 0 represented no stress, and 10 indicated one was extremely stressed.

Once all participants had arrived and filled out their pre-session stress scores, they were instructed to begin the prescribed outdoor garden activity with the raised beds while the sun was still low.

Gardening activities would include garden preparation such as pulling weeds, fertilizing the soil, adding soil amendments, planting seeds and starters, and plant labeling. During this period, the HTR would facilitate social conversation with participants, answer horticultural questions, and moderate a safe space for participants to engage socially and with nature.

After approximately 30 minutes, or half the session had passed, the temperature would begin to increase, signaling a transition to PCCCG's greenhouse for cultivation activities. The greenhouse featured an aquaponics system, automated fertigation, fans, and tables for program activities. The greenhouse provided sun protection, proximity to the PCCCG bathroom and water fountain, as well as an opportunity to work in closer proximity to other participants.

The horticultural therapist would provide guided, pre-planned cultivation activities such as stem cutting propagation, seed propagation, transplantations, and an opportunity for participants to check the progress of their assigned plant domes, which offered up to 24 planting squares for seeds and cuttings. Planting trays were used frequently to prevent soil spillage and waste.

Participants were provided support as needed throughout all activities. The education of these gardening techniques is an important step because it allows the participants to learn coping skills that they can take home and use in their own gardens. The purpose of this program, after all, was not only to actively provide social-therapeutic benefit, but to provide the tools needed for participants to allow them to better manage their stress at home by improving their capability to care for their home-grown plants. Making gardening more enjoyable at home makes it more likely that participants will engage in the therapeutic activity and lower their stress further without external help.

A fun, occasional activity that some participants enjoyed in the program was tending to the worm bin and harvesting worm castings. Participants would enjoy sifting through the soil-like compost, rescuing

worms, and tossing them back in the bin to eat another round of compost. The finished product was a cloth-filled bag of vermicompost. The facilitator would then provide instructions on how to use this product to make "worm tea" to pour onto plants, or to incorporate directly into the soil.

Inevitably, as the plants grew, so would the bugs. While this would be the bane of many gardeners, this was an opportunity to show participants options on how to manage such outbreaks. One popular activity was ladybug releases as a biological control. A mesh mosquito net would cover the affected area and ladybugs purchased online would be released by each of the participants onto the plants. The net would prevent the ladybugs from flying away and the biological control would allow the pests to be addressed without risking participant safety by synthetic, chemical pesticides. Ladybugs generally are also viewed as good luck, and would be celebrated by participants who would sometimes bring their children to participate in this activity.

A popular highlight of any garden is the harvest, and the program had plenty to share. The dedication of the participants resulted in a bountiful garden filled with kale, swiss chard, onions, peppermint, dill, and beautiful black-prince snapdragon flowers. Participants would enjoy the activity of harvesting, processing, and sharing the bountiful harvests with friends and community members. The harvest produced a sense of great accomplishment, especially for those who were not initially confident in gardening. These garden beds were initially overgrown eye-sores of weeds, which became living art due to the guided efforts of the participants.

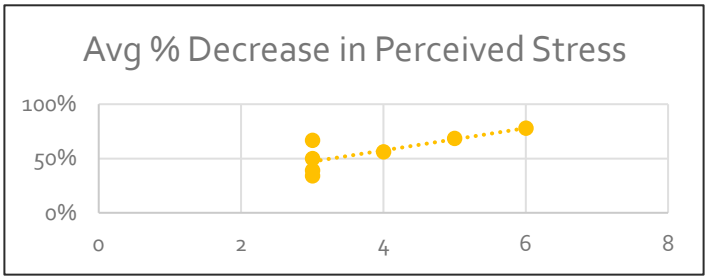
The program concluded with certificates of completion for all participants, regardless of the amount of participation. Those who could not attend the final session had their certificates mailed to them free of charge.

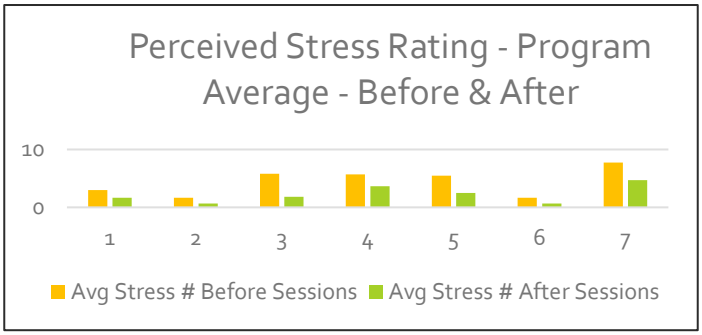
It is worth noting that this program had to contend with a COVID-19 outbreak and Hurricane Ian, which disrupted programming briefly. Despite these added stressors, the program netted a positive effect on the participants' perceived stress and is a testament to the resilience that these sessions instilled. Regardless of what was happening in the world, there was a community of people and plants waiting to welcome these participants, allowing them to enter a state of focus, flow, and relaxation. Although this program is a small sample size and more studies should be conducted to verify its results, it was a positive experience for all involved.

Each session would always conclude with a summary by the horticultural therapist linking the symbolism of the gardening activities to stress management, as well as a prompt for their entry to their stress survey. These two survey entries would complete a before and after snapshot folder of how the gardening sessions impacted the participant's levels of stress.

The session results produced an overall 56% reduction in perceived stress levels. Interestingly, the data revealed a positive correlation; those who attended more than 3 sessions experienced at least an additional 10-20% stress reduction. This finding suggests that the more consistent one is with the activity, the more therapeutic benefit one can expect to receive.

While additional research and a larger sample size is needed for future studies involving gardening for stress relief, the results of this pilot program proved to be an excellent template for future programming and showed significant results in lowering perceived stress. Connecting with nature is not simply a nice thought, it is healing. Human beings came from nature and are a part of it; however, people are increasingly becoming more connected to phones, the internet, and the fast-paced distractions of this world. Growing plants takes patience and persistence, but the rewards are always more than just the harvest, but what one has experienced during the process.





American Psychological Association. (2020, October). Stress in America 2020. *American Psychological Association.*
American Psychological Association. (2023, November). Stress in America 2023. *American Psychological Association.*
American Psychological Association. (2024a). Stress in America 2024: A nation in political turmoil. *American Psychological Association*.
American Psychological Association. (2024b, October 21). Stress effects on the body. *American Psychological Association.*
Bethune, S. (2022, October). Stress in America 2022. *American Psychological Association.*
Das, K., & Ramaswami, A. (2022). Who gardens and how in urban USA: Informing social equity in urban agriculture action plans. *Frontiers in Sustainable Food Systems*, *6*.
Farrar, L. (2016). *Gardens and gardeners of the ancient world*. Windgather Press.
American Horticultural Therapy Association. (2025). Standards of practice for horticultural therapy.
Soga, M., Gaston, K.J., & Yamaura, Y. (2017). Gardening is beneficial for health: A meta-analysis. *Preventive Medicine Reports*, 5(5), 92–99.

James V. Hatcher HTR holds a B.S and is a professionally registered horticultural therapist and approved supervisor with the American Horticultural Therapy Association (AHTA). James holds a certificate in Horticultural Therapy and Environmental Horticulture Management from the University of Florida and is a behavioral health case manager at Lakeland Volunteers in Medicine (LVIM).

Editor in Chief Lesley Fleming, HTR
Editor Iris Harper Hayes

Contributors
Patrick Young, Greg Stivland,
University of Florida Therapeutic Horticulture Activities Database,
Elizabeth (Leah) Diehl, Katie Grimes, Susan Morgan, James V. Hatcher

Freepik, C. Luther, P. Cody, V. Klein, Autism Wiki, OregonLive.com, Garden Center Marketing,
Selecta North America, Chicago Botanic Garden, Heyes Garden Center,
All-American Selections, D. Hughes. Unsplash

Florida Horticulture for Health Network
To receive *Cultivate* contact FLHort4Health@outlook.com

www.facebook.com/FloridaHort4Health

Upcoming Issue of *Cultivate* Spring 2026:
Plants and Sense of Place: Applications for Horticultural Therapy