

## CATEGORY: POPULATIONS/PROGRAMS

### Children & Youth Populations & Programs

Horticulture can impact children and youth on so many levels from increasing physical activity through gardening, improving nutrition by growing, tasting & eating healthy produce, promoting resiliency at school gardens, after-school horticulture programs & wilderness camps, and connecting with nature & plants in support of environmental stewardship. Plant-based recreational and therapeutic activities are being used to address adverse childhood experiences (ACE), trauma, family disruption, homelessness, early childhood development, poor nutrition, & COVID-19 issues. Research focuses on child & youth attitudes, behavior, neurosequential development and how plants, gardens and nature can positively impact child & youth populations. Horticulture programs for this population are delivered at a variety of places including schools, treatment centers, camps, and public gardens. Increasing attention is being paid to youth and college aged young people, recognizing that connections to nature & gardening can reduce their stress, improve attention & coping skills, & provide positive leisure activities.

Newer initiatives are focusing on social emotional learning in gardens (Oh et al., 2020; Dankew et al., 2020; Mann et al., 2022), increasing nature exposure as antidote to digital screen time, and using nature connections to address high rates of obesity (American Academy of Pediatrics *Clinical Practice Guidelines*). The breadth of initiatives speaks to the broader framework FLHHN supports: *National Schoolyard Forest System* <https://www.greenschoolyards.org/schoolyard-forest-system> and Zeiger's study that found pediatric primary care providers want to include nature counseling, connections to nature & HT as part of their services.

**For related resources refer to category Landscapes for Health: School Gardens & category Horticultural Therapy & Health Services: Autism populations**

#### Key Organizations

[American Horticultural Society Youth Gardening](#)

[Children & Nature Network](#)

[Green Schoolyards America](#)

[Junior Master Gardener Program](#)

[Kids Gardening](#)

[National Schoolyard Forest System](#)

[Whole Kids Foundation](#)

#### Books, journals & epublications on children & youth horticulture programs

Junior Master Gardener curricula <https://jmgkids.us/kids-zone/>

Latane, C. (2021). *Schools that heal: Design with mental health in mind*. Island Press.

National Agriculture in the Classroom. (2022). Agricultural literacy curriculum matrix (searchable data base). <https://www.agclassroom.org/matrix/>

National Wildlife Federation. (2022). [Growing a wild NYC \(a K-5 urban pollinator curriculum\)](#).

Rakow, D. A. & Eells, G. T. (2019). *Nature Rx: Improving college-student mental health*. Cornell University Press.

#### Research & articles on children & youth horticulture programs

Recently published selected research & articles:

- Allah Yar, M., & Kazemi, F. (2020). The role of dish gardens on the physical and neuropsychological improvement of hospitalized children. *Urban Forestry & Urban Greening*, 53.
- Anaebo, J., Agbonome, P., Agu, A. et al. (2023). Exploring the use of landscape to enhance social interactions among the inmates of centres for destitute children. *Int J of Innovative Environmental Studies Research*, 11(3).
- Bates, C.R., Bohnert, A.M., & Gerstein, D.E. (2018). Green schoolyards in low-income urban neighborhoods: Natural spaces for positive youth development outcomes. *Frontiers in Psychology*, 9.
- Baur, J. (2020). Campus community gardens and student health: A case study of a campus garden and student well-being. *J Am Coll Health*, 5, 1-8.
- Bennett, A. (2023). [Gardening and sustainability lessons for kid](#). *Today's Homeowner.com*.
- Berezowitz, C.K., Bontrager, A.B., Yoder, D.A., & Schoeller, D.A. (2015). School gardens enhance academic performance and dietary outcomes in children. *J. Sch. Health*, 85(8), 508-518.
- Bezold, CP. et al. (2018, April). The relationship between surrounding greenness in childhood and adolescence and depressive symptoms in adolescence and early adulthood. *Annals of Epidemiology*, 28(4), 213-219.
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- Dankiw, K.A., Tsiros, M.D., Baldock, K.L., & Kumar, S. (2020). The impacts of unstructured nature play on health in early childhood development: A systematic review. *PLoS ONE*, 15(2).
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- Elten, M., Benchimol, E.I., Fell, D.B. et al. (2021). Residential greenspace in childhood reduces risk of pediatric inflammatory bowel disease: A population-based cohort study. *Am J Gastroenterol.*, 116(2), 347-353.
- Etheredge, C.L., Waliczek, T.M., & Sudakaran, P.O. (2020). Measuring the economic and educational value of a university-based service-learning floral and plant program. *HortTechnology*, 30(3).
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- Greenschoolyards.org. (2024). [Experiencing nature supports social-emotional health and well-being](#).
- Grimes, K.E. (2021). The Wild Earth Preschool. *AHTA Magazine*, 49(1), 10-11.
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- Jeong, Y., Kim, M., Chang, T., & Yun, S. (2021). Components for early childhood horticultural education program derived from expert delphi research. *Journal of People, Plants, and Environment*, 24(2), 119-135.
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- (2021). [UF professor helps autism spectrum adults earn horticulture certification.](#) UF/IFAS BLOGS.

### Examples of children & youth horticulture programs

A Day at Forest School demonstrates outdoor learning, importance of access to nature.

<https://www.youtube.com/watch?v=-9ADLZv7jms>

Anne and Robert H. Lurie Children's Hospital of Chicago uses a garden play area Crown Sky Garden to deliver treatment and services to pediatric patients.

<https://www.luriechildrens.org/en/patients-visitors/visiting-lurie-childrens/tour-the-hospital/family-community-destinations/crown-sky-garden/>

Charles R. Drew Transition Center & its school-based horticulture program in Detroit teaches hort skills for young people with disabilities addressing childhood obesity, early-onset diabetes and food insecurity using hydroponics, in-ground gardens.

<https://kidsgardening.org/garden-story-empowering-hydroponics/>

From Apples to Acorns at Hillcrest Elementary School Oak Harbor Washington is a partnership with the school, local garden club & community improving the school courtyard.

<https://kidsgardening.org/garden-stories-apples-to-acorns/>

*Gardening with kids/dinosaur garden/teaching children the joy of gardening.*

<https://www.youtube.com/watch?v=Oe6rX6sasDY>

*Hershey School's Sensory Garden engages students including trauma informed theory.*

<https://www.youtube.com/watch?v=pvlspb98KSI>

*Junior Master Gardener Learn, Grow, Eat & Go program is an interdisciplinary program with academic focus, gardening, nutrient-dense food experiences & physical activity.*

<https://jmgkids.us/lgeg/>

*Mala'ai Middle School's Hawaiian Culinary Garden is a one-acre ecosystem classroom with native, endemic edibles and craft crops, part of Hawai'i Island School garden Network.*

<https://malaai.org/>

*Monarch School of New England uses therapeutic gardens for learning & vocational training for elementary & high school students who have significant special needs.*

<https://www.youtube.com/watch?v=goVNY7doTEU>

*National Children & Youth Garden Symposium annual event is hosted by the American Horticultural Society.*

<https://ahsgardening.org/gardening-programs/youth-gardening/ncygs/>

*National Garden Clubs' Children & Youth Programs include youth pollinator gardens, youth garden clubs, ecology warriors workbook, contests, scholarships & grants.*

<https://www.gardenclub.org/youth-and-scholarships>

*National Schoolyard Forest System initiative seeks to create schoolyard forests to directly shade & protect students from extreme heat related to climate change. A resource library has been started in support of this work with lectures, videos*

<https://www.greenschoolyards.org/schoolyard-forest-system>

<https://www.greenschoolyards.org/schoolyard-forest-design-lecture-series>

*North Carolina Botanical Garden's Youth & Family Programs include nature activities, camp flytrap, Little Sprouts preschool program, family workshops, children's wonder garden & Nature Play at Home guide.*

<https://ncbg.unc.edu/learn/youth-family/>

*Pacific Quest outdoor behavioral health care program for adolescents uses neurodevelopmental approach, horticultural therapy and nature connections.*

<https://pacificquest.org/adolescents/>

*The Children's Center @ The Centers for Exceptional Children in Winston-Salem, NC delivers horticultural therapy and nature-based programs to children with physical disabilities, orthopedic challenges & other health issues.*

<https://thecfec.org/prek-elementary/>

The Wild Earth Preschool at the Dallas Zoo provides nature experiences for this age group.

<https://www.dallaszoo.com/wildearthpreschool/>

Urban Roots works with at-risk youth in North Carolina using a vocational horticultural therapy program partially funded through *Campaign for Black Male Achievement*.

<https://www.urbanrootsnc.com/about-us>

Seed your Future organization seeks to inspire and educate students about horticulture careers, with career exploration, scholarships, summer camps, green career week, & DIY plant videos.

<https://www.seedyourfuture.org/students>

Southern Boone Learning Garden in Ashland Missouri has a variety of programs for students pre-k -4<sup>th</sup> grade, with direction from the Southern Boone county School District.

<https://www.sblearninggarden.org/lessonplans>

Youth Programming Toolkit from Children & Nature organization, Outdoor Foundation, Search Institute, and Fresh Tracks provides resources re nature-based programming & youth.

<https://www.childrenandnature.org/resources/youth-development-and-nature-toolkit/>

### **Videos, websites & webinars on children & youth horticulture programs**

Big Green resource database

<https://biggreen.org/thegreenhouse/>

*Cultivating Resiliency in Youth with Deep Nature Connections* youtube webinar by Joanna Yates, HT practitioner discusses ways to develop this connection.

<https://youtu.be/ppWSeB8EEKY>

*Healing Gardens: Dell Children's Medical Center* has 7 different gardens on the campus with a focus on behavioral health, lifestyle changes, sensory garden, maze, labyrinth & nature connections.

<https://www.youtube.com/watch?v=oll4Q-prnkM>

*Healing Garden Virtual Tour – Golisano Children's Hospital of SW Florida* showcases the outdoor garden built in 2017.

<https://www.youtube.com/watch?v=7jMYBaqbpmk>

Kids Gardening website provides resources for educators & parents based on garden-based learning, hands-on activities with info on grants, contests, webinars, curriculum, interactive discussion sessions.

<https://kidsgardening.org/for-educators/#>

Loveland Youth Gardeners in Colorado serv youth with programs like Green Adventures, LEAD exploration program, Repair to Grow HT program among others.

<https://www.lovelandyouthgardeners.org/programs-1>

National Outdoor Learning Library, part of Greenschoolyards.org has resources: living schoolyards & climate resilience, health benefits, teaching, school gardens, enriching play & social spaces.

<https://www.greenschoolyards.org/library>

*Need to Know Developments in HT & Horticulture for Health* youtube video discusses children's social & emotional learning in garden & green space settings by HT practitioner Lesley Fleming, 2023  
[New Developments in Horticultural Therapy and Horticulture for Health - YouTube](#)

*New Jersey Agricultural Experiment Station & Rutgers University Gardening with Youth* website offers resources with online links on starting school gardens, and webinars (starting an indoor garden, 4-H Victory Garden STEP club), gardening activities for youth, & family fun pages.  
<https://njaes.rutgers.edu/home-lawn-garden/gardening-with-youth.php>

Nierenberg, D. (2023). When we talk about college campuses, we're forgetting food insecurity. *Food Tank*. <https://foodtank.com/news/2022/08/when-we-talk-about-college-campuses-were-forgetting-food-insecurity/>

*Plant Heroes* website from the American Public Gardens Association has hands-on materials, educator resources with a focus on nature-based education related to forest health, ecology and plant conservation.  
<https://plantheroes.org/>

*School Garden Forum* from Florida Horticulture for Health Network in 2022 raises topics where these settings can promote health, education.  
<https://www.youtube.com/watch?v=khgyNZEIDlc>

*Schoolyard Activity Guides* website from [greenschoolyards.org](https://www.greenschoolyards.org) offers free activity guides in multiple languages.  
<https://www.greenschoolyards.org/guides>

THAD (Therapeutic Horticulture Activity Database) offers TH activities across populations including children & youth (bulb planting, citrus tasting, lavender wand, pita pizzas)  
<https://hort.ifas.ufl.edu/therapeutic-horticulture-activities-database/children-and-youth/>

### **Related organizations**

[Plant a Seed Foundation](#)

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