DOES GARDENING MAKE US HEALTHY? EVALUATING THE HEALTH AND WELLBEING OUTCOMES OF PARTICIPANTS IN AN EXTENSION COMMUNITY GARDENING PROGRAM

LOGAN & LARIMAR COUNTY

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PROJECT INTRODUCTION

- *The problem:*
  - Research suggests being in nature has many health and well-being benefits for individuals and communities(1-4), but there is a lack of understanding of translating this knowledge to practice (5)
- *Addressing the problem:*
  - Assess the current state of nature-based programming for health and wellbeing
  - Facilitate evidence-informed programming using best practice methods (6) including:
    - "Explore": understanding practitioner and researcher needs and interests
    - "Partnership Formation": develop thoughtful collaboration
  - Science communication and public engagement

INTERNSHIP GOALS

1) Refine program assessment process with a goal towards scaling it to other Extension Agencies
2) Use the results of community needs assessment to begin developing curriculum to train future Extension Agents in assessing health and wellbeing outcomes as a result of nature-based programming.
3) Disseminate the results to program participants, the public, and an academic audience

PROJECT ACTIVITIES & RESPONSIBILITIES

- Quantitative analysis of survey data:
  - *1) State of practice*: well-being outcomes *(Figure 1),* types of programs *(Figure 2)*, current use of science (Figure 3),
  - *2) Needs of practitioners:* Interest in training & collaboration with researchers *(Figure 5),* desired learning outcomes and needs from curriculum *(Figure 7)*
- Design interview guides to:
  - *1) Further understanding of needs from survey*
  - 2) Build practitioner mental model of programming vs. impacts *(Figure 4)*
- Public outreach: Healthy by Nature Fair (Figure 6); Well-being benefits of Gardening pamphlet

RESULTS

Figure 1. Stated Well-being Outcomes From Practice

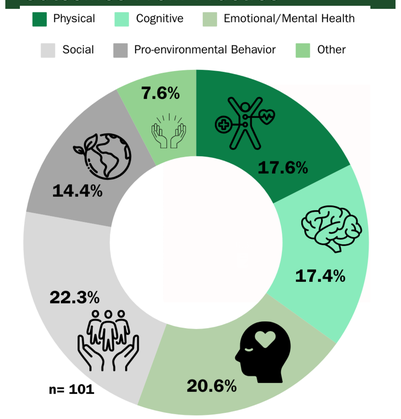


Figure 2. Types of Programming in Practice

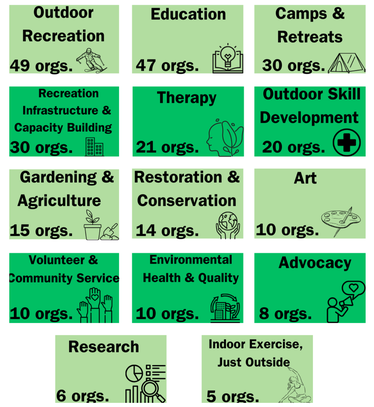


Figure 5. Practitioner Interest Collaboration & Training

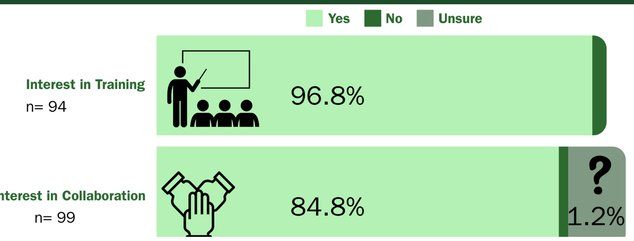


Figure 3. Current Use of Science in Practice

Figure 4. Mental Model Template for Interviews

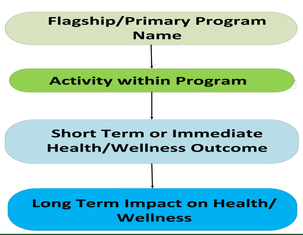
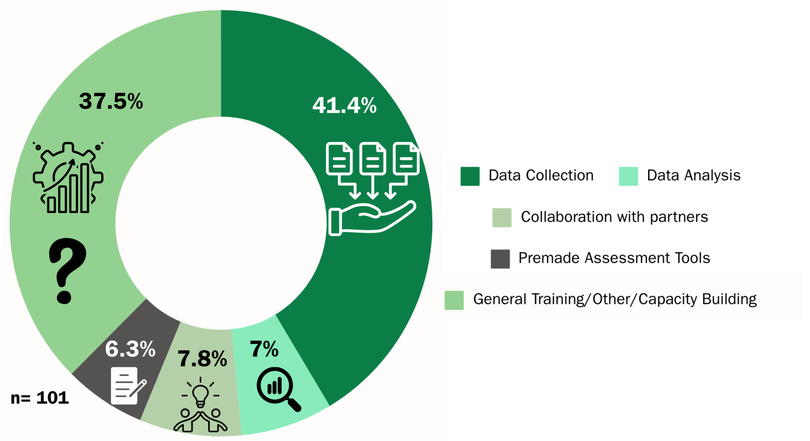


Figure 6. Image taken at Healthy By Nature Fair

Figure 7. Desired Learning Outcomes from Training



KEY INSIGHTS AND TAKEWAYS

1.Strong interest among practitioners for training and collaboration
2.Learning objectives for curriculum:
  A) Current understanding in nature and health science
  B) Data collection tools and practice
  C) Data assessment & implementation to programs
  D) Science communication

NEXT STEPS

1) Conduct interviews with practitioners using developed guides
2) Add to curriculum development using data from interviews
3) Administer curriculum to practitioners in nature and health; including extension
4) Using interview data, create recommendations to researchers to advance collaboration between science and practice
5) Publish gardening & health educational pamphlet
6) Publish results of mental model to build academic understanding of practice

CITATIONS

1.Frumkin, H., Bratman, G. N., Breslow, S. J., Cochran, B., Kahn Jr, P. H., Lawler, J. J., ... & Wood, S. A. (2017). Nature contact and human health: A research agenda. *Environmental health perspectives*, *125*(7), 075001
2.LoTemplio, S., McDonnell, A. S., Nadkarni, N., Walker, S., Gallegos-Riofrío, C. A., Scott, E. E., ... & Strayer, D. L. (2023). Healthy by nature: Policy practices aimed at maximizing the human behavioral health benefits of nature contact. *Policy Insights from the Behavioral and Brain Sciences*, *10*(2), 247-255.
3.Kondo, M. C., Fluehr, J. M., McKeon, T., & Branas, C. C. (2018). Urban green space and its impact on human health. *International journal of environmental research and public health*, *15*(3), 445.
4.Rojas-Rueda, D., Nieuwenhuijsen, M. J., Gascon, M., Perez-Leon, D., & Mudu, P. (2019). Green spaces and mortality: a systematic review and meta-analysis of cohort studies. *The Lancet Planetary Health*, *3*(11), e469-e477
5.Markevych, I., Schoierer, J., Hartig, T., Chudnovsky, A., Hystad, P., Dzhambov, A. M., ... & Fuertes, E. (2017). Exploring pathways linking greenspace to health: Theoretical and methodological guidance. *Environmental research*, *158*, 301-317.
6.Marvier, M., Kareiva, P., Felix, D., Ferrante, B. J., & Billington, M. B. (2023). The benefits of nature exposure: The need for research that better informs implementation. *Proceedings of the National Academy of Sciences*, *120*(44), e2304126120.