Nature hacks for life

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Contents

Chapter 1

Sustainability
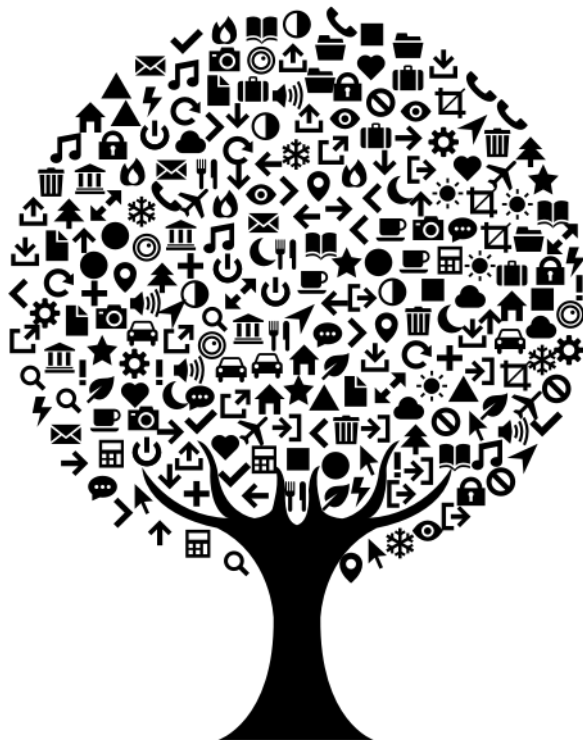
This is the **prework** before we meet.

Context

Nature deficit disorder is an experiential hypothesis for behavioral ecology. It proposes that humans spending too little time outdoors are more likely to experience behavioral challenges and reductions in cognition and mental well-being. Richard Louv first developed these ideas formally in the book entitled 'Last child in the woods' in 2008. A more recent and expansive book was published in 2012 entitled 'The nature principle' and another in 2019 entitled 'Our wild calling'. These works precipitated a movement to better support programs for outdoor activities for children and stimulated incredible (but not without controversy) scientific evidence that reconnecting with nature can enhance many performance measures in people - adult and children alike. Here, we can take a sensible perspective that tracking and enhancing simple interactions in natural systems, outdoors, like provides an opportunity to explore personal performance and develop new mental and emotional skills.

There is excellent evidence in many domains of science that bridge human interaction theory with complex systems that active versus passive approaches generate different outcomes. The most effective interventions are often relatively more active, directed, and intentional depending on the field of study. Within the nature-deficit disorder framework, research that examines hands-on, active interactions with natural systems suggests that returns are significantly greater relative to passive approaches to natural systems. For instance, the Microbiome Rewilding Hypothesis (MRH) and Psycho-Evolutionary Restoration Hypothesis (PERH) suggests that nature-based health interventions that include people fixing nature (via planting, gardening, etc) generates reciprocal restoration feedbacks between the people and the ecosystems. This win-win science of reciprocity between other natural systems and the actions of people is relatively well established. This is an opportunity to be mutualistically enhance two systems in need of support - you and the natural communities we inhabit and share. A simple eudaemonic feedback loop can begin with an examination of sustainability of life choices.

Learning outcomes

1. Examine decisions that have impact globally.

2. Track smaller decisions that influence sustainability.

3. Explore whether changes that enhance sustainability can also promote deeper and more frequent connections with other natural systems.

4. Appreciate the limitations associated with existing and assumed norms.

Schedule

Here is an outline of the challenges proposed to explore these principles over the course of several weeks. The first week is prework, second week is a deck and reflection on meaning and nature hacks, the third week is direct practice, and finally, the consolidation is a resolution or decision to commit some changes that are potential win-win scenarios.

week	challenge	tasks
1	Explore sustainability and reciprocity with natural systems	take ecological footprint quiz, track simple li
2	Nature hacks deck and discussion	reflect on meaning, list purpose, match challe
3	Practice	explore nature practice, track creativity, trac
4	Next steps	futureproof daily practice, identify resolution

Citation

Lortie, CJ (2021): Nature hack for life. figshare. Book.

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Challenge time

Do the ecological footprint quiz.
Report your findings here.
Track frictions and points of resistance to your daily happiness and productivity.
Read this paper: On sustainability interpretations of the Ecological Footprint.

Reflection questions

1. Did your assumptions about sustainable living reconcile with estimated global costing?

2. Are the decisions that drive footprint mostly 'big' or 'little' ones defined as large actions such as travel and trips or more by daily activities?

3. Did the concepts of biocapacity and ecological deficits resonante with your life decisions?

4. Are there individual or institutional-level changes that can be subtly nudged to increase capacity, capital, and resilience in sustainability?

Chapter 2

Nature hacks

Many approaches and critical thinking heuristics in ecology & evolutionary biology (eeb) are relevant to other disciplines.

Context

Learning outcomes

1. Develop your data viz skills.

2. Hone your critical thinking statistically by iterative plotting-modeling a dataset.

3. Do a regression analysis.

Challenge time

Reflection questions

1. When do you use regression versus correlation?

2. How could you incorporate time into your plots or statistical models?

3. Did the visualization highlight some of the criteria associated with critical thinking statistically more than others?

Chapter 3

Daily practice

Context

Exploratory data analyses is everything we have done. This is a primary approach to better understanding your evidence without introducing bias. Transparency is key.

Learning outcomes

1. Practice your critical workflow for data and statistics that is replicable and literate.

2. Appreciate the value of generalized statistical models that connect to one another conceptually.
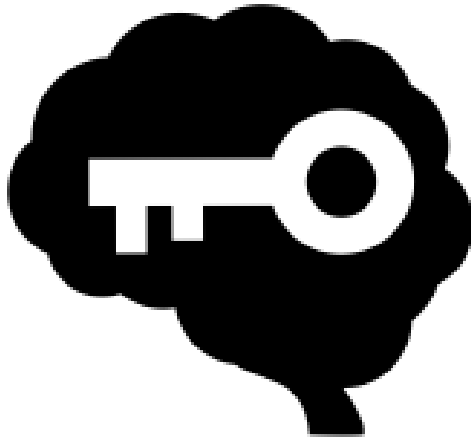
3. Do a GLM.

Challenge time

Here is an impressive ..

Reflection questions

1. When do you move from EDA to model fitting?

2. Are there ways to mitigate bias and p-hacking through formal workflows?

3. Did building a model such as GLM align with critical thinking and intuition, i.e from critical thinking was it accurate and fair? Did the EDA-to-model process legitimately represent the patterns in the observations recorded.

Chapter 4

Consolidate

Context

Learning outcomes

1. Practice your critical workflow for data and statistics that is replicable and literate.

2. Appreciate the value of generalized statistical models that connect to one another conceptually.

3. Do a GLM.

Challenge time

Here is an impressive

Reflection questions

1. When do you move from EDA to model fitting?

2. Are there ways to mitigate bias and p-hacking through formal workflows?

3. Did building a model such as GLM align with critical thinking and intuition, i.e from critical thinking was it accurate and fair? Did the EDA-to-model process legitimately represent the patterns in the observations recorded.