Systems Thinking:

Mapping Causes, Actors & Leverage Points

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XAVIER

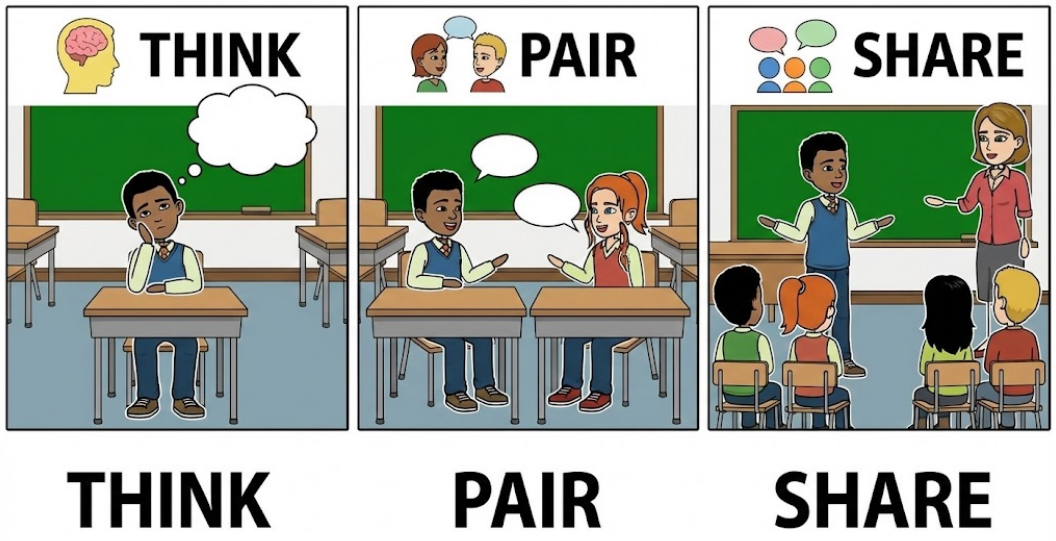
Learning Objectives for Today

1. Distinguish between linear and systemic explanations for a social problem
2. Brainstorm the components of a system (with help from an AI partner)
3. Construct a simple systems map
4. Identify potential “leverage points” for creating change
5. Know what to look for in your real-world observations.

Warm Up: What Causes Your Issue?

1. **Individually (on Paper):** List 3-5 factors you believe contribute to the social issue you're interested in

2. **Pair and Share:** Briefly discuss your lists with a partner



Introduction to Systems Thinking

- **System:** Set of interconnected elements that are organized in a way that achieves something
- **Linear vs. Systems Thinking**
  - **Linear:** A → B
  - **Systemic:** A → B → C → A (I.e., a loop!)
- **Feedback Loops:**
  - **Reinforcing (R):** An action produces a result that promotes more of the same action (e.g., snowball effect)
  - **Balancing (B):** An action produces a result that seeks stability or resists change (e.g., a thermostat)
- **Leverage Points:** Places in a system where a small shift can cause a big change

What is a “System”?

Three parts…

- **Elements:** The things in the system (people, machines, money, animals, institutions, etc.)
- **Interconnections:** How the elements influence each other (information flows, physical flows, decisions, rules)
- **Purpose:** What the system is trying to do (often revealed by its actual behavior, not stated goals)

Stocks and Flows

Stocks = Accumulations

Examples:

- Population
- Water in a bathtub
- Money in a bank account
- Inventory in a warehouse
- Knowledge in an organization

Stocks change slowly. They give systems memory and inertia

Flows = Rates of Change

Examples:

- Births and deaths
- Deposits and withdrawals
- Production and sales
- Learning and forgetting

Flows fill or drain stocks

Feedback Loops

The dynamism in systems

Reinforcing Loops (Positive Feedback)

These amplify change

Examples:

- Interest on savings
- Viral growth
- Success attracting more success
- Poverty reinforcing poverty

Reinforcing loops create exponential growth or collapse

Balancing Loops (Negative Feedback)

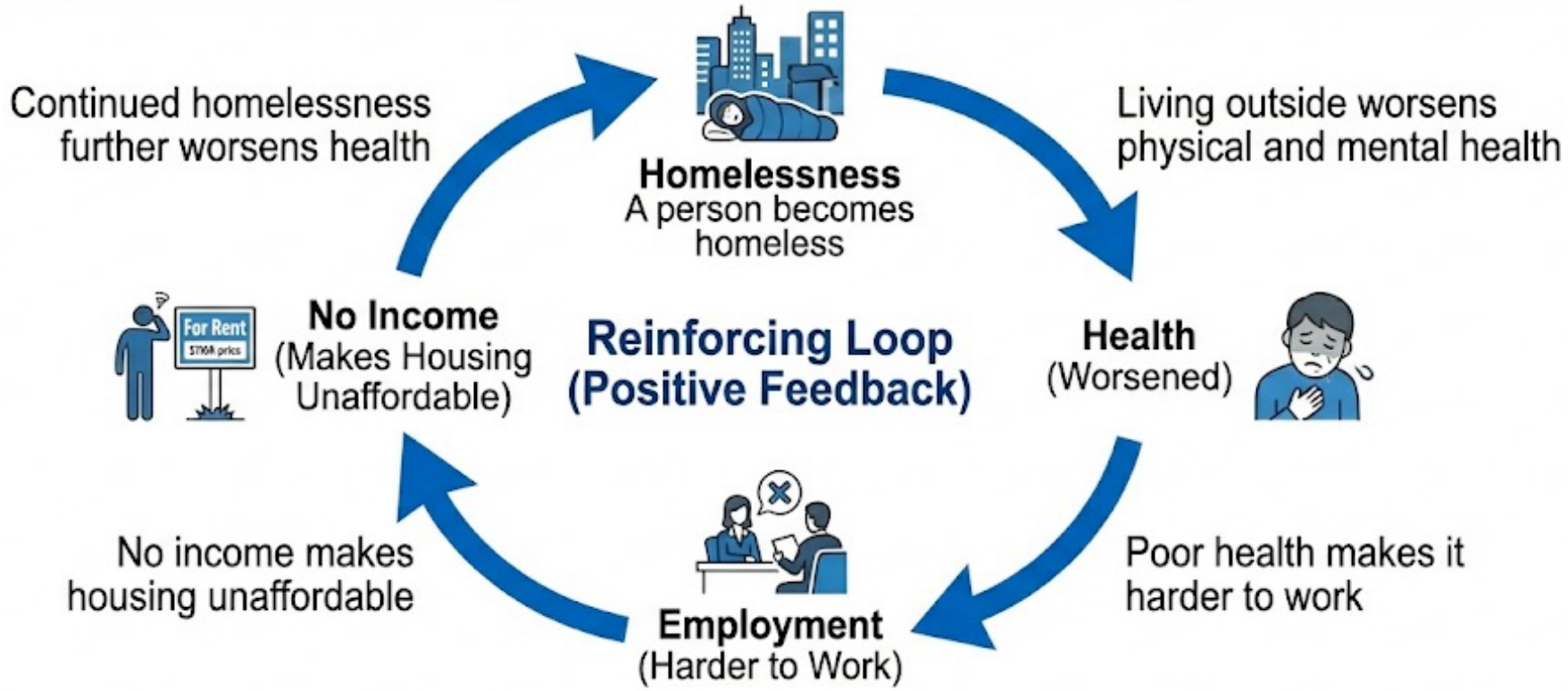
These resist change and stabilize

Examples

- Thermostat regulating temperature
- Hunger regulating food intake
- Prices regulating demand

Balancing loops push systems toward a target or equilibrium

Reinforcing Loop 1: Homelessness → Health → Employment → Homelessness



Homelessness creates conditions that make it harder to exit homelessness.

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Balancing loops push systems toward a target or equilibrium

Balancing Loop 1: Homelessness → Outreach → Housing

This is the intended stabilizing loop — but it only works if housing supply exists.

Delays

Delays are everywhere:

- Time between ordering and receiving inventory
- Time between studying and learning
- Time between pollution and health impacts

Delays cause:

- Overshooting
- Oscillations
- Instability

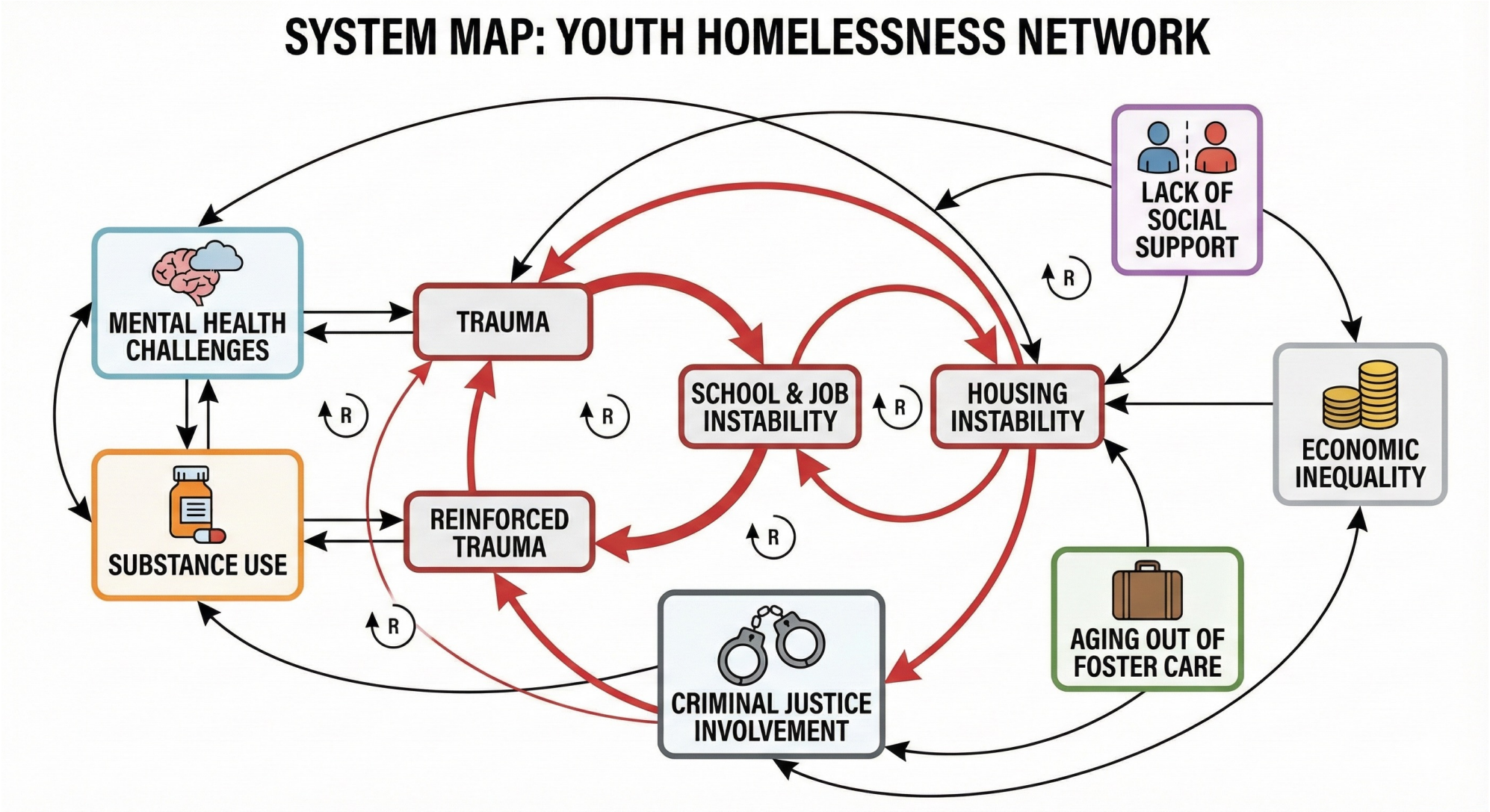
When people don't account for delays, they overreact

Leverage Points

Where small changes create big impact

Leverage points are places within a complex system where a small shift can produce large, lasting change

Common (Low-Leverage) Interventions	Powerful (High-Leverage) Interventions
» Budgets and funding levels	» Information flows
» Targets and quotas	» Rules and incentives
» Standards and regulations	» Feedback loops
» Subsidies and taxes	» Goals of the system
» Program expansions	» Mindsets and paradigms
These change outputs, but rarely change system behavior	**Harder to see — but transformational**


SYSTEM MAP: YOUTH HOMELESSNESS NETWORK
MENTAL HEALTH CHALLENGES
TRAUMA
LACK OF SOCIAL SUPPORT
SCHOOL & JOB INSTABILITY
HOUSING INSTABILITY
ECONOMIC INEQUALITY
SUBSTANCE USE
REINFORCED TRAUMA
AGING OUT OF FOSTER CARE
CRIMINAL JUSTICE INVOLVEMENT
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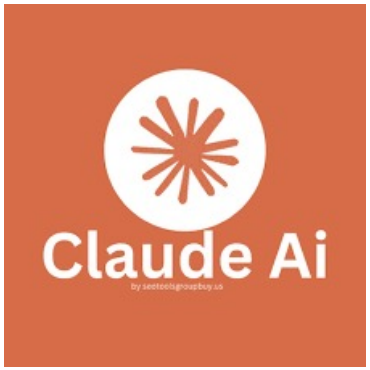
Key Takeaways on Systems

1. **Systems are everywhere:** Organizations, markets, classrooms, families, ecosystems
2. **Behavior comes from structure:** Change the structure → change the outcome
3. **Stocks create inertia:** Big problems take time to fix
4. **Feedback drives everything:** Growth, collapse, stability, oscillation
5. **Delays cause chaos:** Most policy failure comes from reacting too late

AI-Enhanced Brainstorming

- **Our Goal:** To generate a rich, diverse list of the “raw materials” for our system map
- **Our Tool:** We will use an AI assistant as a *brainstorming partner* to help us think broadly and overcome our initial biases



- **<u>YOUR</u> Role:** You are the expert. The AI generates possibilities; you provide the critical judgment

AI-Enhanced Brainstorming

The Prompt

I am a university student studying social entrepreneurship. I am analyzing the problem of ***[insert your chosen problem]***. Act as a systems thinking expert. To help me prepare for a mapping exercise, please brainstorm a comprehensive list of:

1. **All potential ACTORS:** People, groups, and organizations involved, both directly and indirectly
2. **All potential FACTORS & FORCES:** Contributing factors, pressures, and dynamics at play

AI-Enhanced Brainstorming

Curate and Add

Once the AI generates its list:

1. **Curate:** Review the list. Identify the **5-7 actors** and **5-7 factors** you believe are most critical for ***your specific*** understanding of the problem

2. **Add:** What did the AI miss? Add at least **one actor or factor** from your own knowledge or experience that the AI didn't generate

This is where your human insight is essential!

Build Your Systems Map

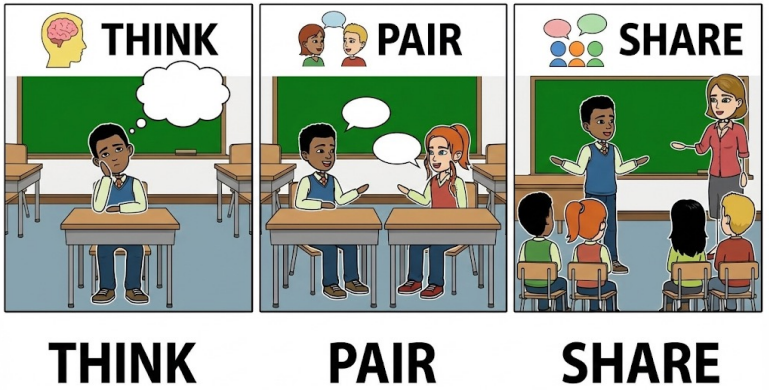
Goal: Understand the **relationships** and **dynamics** between the parts

Instructions:

1. Write your curated actors and factors on a sheet of paper
2. Draw arrows to show causal links (e.g., “Rising housing costs” → “Increased housing instability”)
3. Try to identify at least one **feedback loop** (reinforcing or balancing)

Identify Leverage Points

- Look at your completed map
- Circle **1-2 potential leverage points**
- **Ask yourself:** “Where could a small, smart intervention here create an outsized impact?”



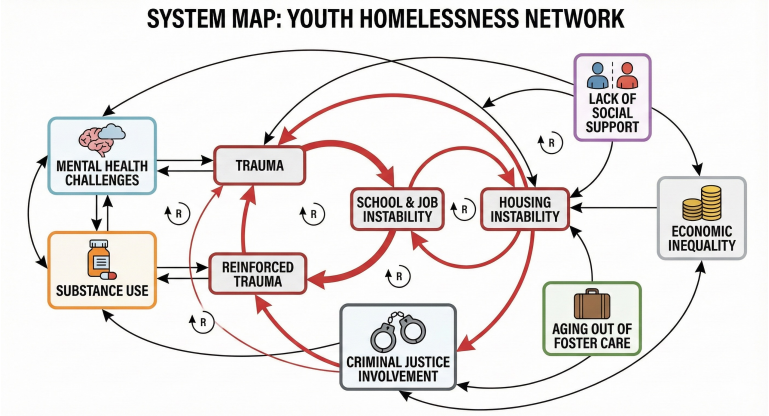
Debrief/Discussion

- What surprised you about your system once you started mapping it?
- What did your group add that the AI missed? Why do you think it missed that?
- Based on your map, what part of this system do you need to ***see in the real world*** to understand it better?

Where Do We Go From Here?

Your systems map is not an end point – it's a guide.

- Use it to identify the most important actors, dynamics, or locations
- This will help you decide: "What slice of this big, complex system should I focus on for my real-world observation?"



Next Class: Problem Framing