

The Effect of Food, Housing and Skills Interventions on Individual Life Trajectories

Abstract

The Haven is a charitable organization providing food, housing, counseling, and life skill support for people in need. In this paper we develop a simple model of an individual's life trajectory that can be used to understand how Haven interventions impact individuals. The model is intended as an educational and explanatory vehicle for community members and donors to the Haven. By providing simple controls that turn interventions on and off, the model and its associated interface, allow people to see how the actions the Haven take influence the life situations of its clients. This is ongoing work that will ultimately be provided to the Haven as a tool for education and donor development.

Background

The Haven is a charitable organization in White River Junction, Vermont, that provides services to people with a wide range of needs. One of the Haven's missions is to help individuals find hope and a path toward self-sufficiency.

Support from the Haven includes food, housing, counseling, assistance with life skills and problem solving. In order to provide this support, the Haven depends on financial contributions, 93% of which come from private donors with only 7% coming from government organizations. Fundraising is critical to the success of the Haven's mission.

The goal of this work is to create an interactive tool that will help the Haven communicate the impact it's work has on the life trajectory of those in need. This communication could be aimed at the community (to increase understanding of the Haven's role), at Haven staff and clients (to better understand how day-to-day interventions promulgate), and at Haven donors (to understand the ways in which their donations will impact life trajectories). The hope is that there will be more awareness of the Haven and that potential donors will be more likely to donate knowing how their money is helping others.

In this paper we first characterize a typical client of the Haven, and then use that characterization to develop a simple model of a person's life trajectory. The differences in people noted by the Haven personnel are included as parameters in the model so it can be used to look at various situations (from people who would almost never need the Haven's help to those who could almost never do without it). That model is then used as the basis for looking at life events and interventions.

A Representative Haven Client

Those served by the Haven come from a spectrum of backgrounds and situations with a range of abilities and impairments. Generally they are a population at risk with little to no cushion on which to fall back, living paycheck to paycheck: families who lost their home due to a parent with addiction getting laid off; an individual with a broken-down car causing a loss of pay and more expenses; an individual with childhood trauma and little education or social skills; a family whose sick child needs expensive medical attention, making it necessary for the working parent to leave work.

Financial security, physical and mental health, level of education and skills, relationships, and living situations are factors that determine life's path.

Invariably, these life factors influence each other. For example:

- With more education and training, employment opportunities increase.
- Longer employment increases job experience which also increases earning potential.
- As life's distractions or unfortunate events increase, the ability to stay focused on work or learning goes down, and therefore earning potential goes down.

Individuals have different capacities with which to overcome life's obstacles. Capacities are influenced by available resources (food, housing, transportation, money) or emotional and physical factors (education, personal skills, physical and mental health).

Model Structure

We have tried to represent the key factors determining an individual's ability to care for themselves and potentially prosper as simply as possible. We have included things described to us by staff members of the Haven as the basic needs and skills that determine quality of life of their clients. These, in turn, make the difference between poverty and self-sufficiency.

As a way of "plotting" an individual's life trajectory, the model includes the following variables:

- 'Security of Housing'
- 'food security'
- 'Skills and Abilities'
- 'Issues on the Plate'

The model is a 3-stock model and is run over a 10-year time period. The model starts at the time when an individual launches into the world independently, leaving a home with some adult care or supervision (parents, foster parents, legal guardians). The individual's age could be anywhere from 14 – 26 years old.

The full model is available as supplementary material, and a running version of the model is available at the link included with this paper submission. The basic stock and flow structure of the model is given in Figure 1.

When 'Skills and Abilities' are low it's difficult to find employment and 'earnings' go down. With little to no income, housing and food are hard to get. Low 'Security of Housing, decrease the 'capacity to learn' and that further lowers 'Skills and Abilities'. Without 'Skills and Abilities', the 'capacity to deal with issues' goes down. With too many issues to deal with, there is no time or energy for learning new skills or staying in school. This makes it even more difficult to earn income.

While these tend to be stories of failure, all the loops work in the opposite direction so that as some things get better, others do as well. We will see when we look at behavior that interventions can help prevent the negative spirals from happening and put people back on track.

Model Behavior

In all the experiments shown we start the model in steady state, and then perturb it with the addition of a single unfortunate life event (a common trigger for people visiting the Haven). The magnitude of this 'extra event' (represented as a pulse into the stock 'Issues on the Plate'), determines what happens to the individual given assumptions we have made around innate individual characteristics. The model is parameterized to represent someone who is managing, but continually at risk. They can recover from a small shock, in the small shock scenario, but not from a big shock (big shock scenario).

Here we'll show results of two scenarios.

A small shock scenario represents an unfortunate life event that is of modest magnitude, making it difficult to deal with 'Issues Needing Attention', thus impacting 'Security of Housing', 'Food Security', and 'Skills and Abilities'. But over time, with no additional events occurring, the individual uses their own capacity to get back on track.

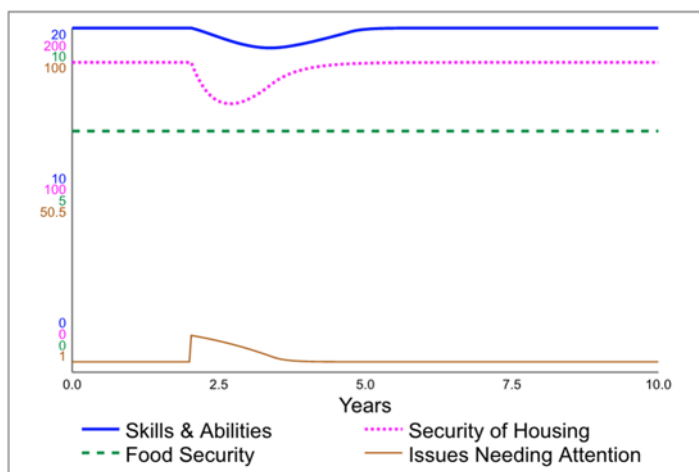


Figure 3. Small shock scenario

The second scenario represents a big shock, one in which the unfortunate event has a larger magnitude. In this case, the individual does not have the capacity to deal with it properly and 'Issues Needing Attention' keep accumulating, while the ability to deal with them is declining. With more and more pressure to deal with issues, focusing on work or learning is almost impossible. Earnings will decline which will directly affect 'Security of Housing' and 'Food Security'. In this scenario, there isn't enough physical or emotional capacity to handle everything without any help.

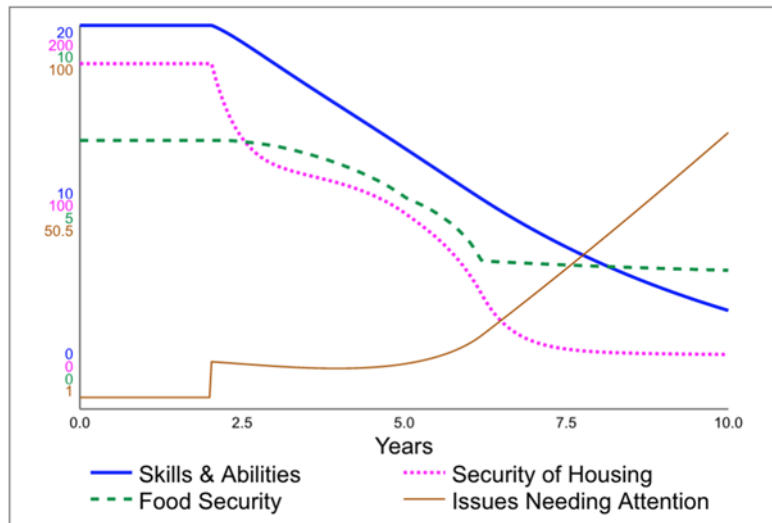


Figure 4. Big Shock Scenario

Some Individuals might have a cushion - a savings account; a supportive friend or family member who is more fortunate; or support from government programs like TANF or SNAP - something to fall back on initially. The cushions related to skills and the capacity to deal with issues are less concrete and represent the innate or developed capabilities of an individual.

Often individuals with these “cushions” can patch things together well enough to achieve self-sufficiency, without total collapse as is shown in the next section.

The model provides insights regarding the variation within the Haven client population in terms of background and capacities.

Different Individual Characteristics

For many individuals, big shocks, though traumatic, do not cause systemic decline. By adjusting the intrinsic abilities of the individual, we see the difference in outcomes that results from what would have triggered collapse.

Here we show the influence of an individual's 'innate capacity to deal with issues. When it's lower than average, recovery is not possible without help as it would be with average problem-solving ability.



Figure 5. Low problem-solving skills - leads to collapse instead of recovery

Here is an example of a big shock scenario. However, in this example, 'innate capacity to learn' is very high, which avoids an actual collapse.

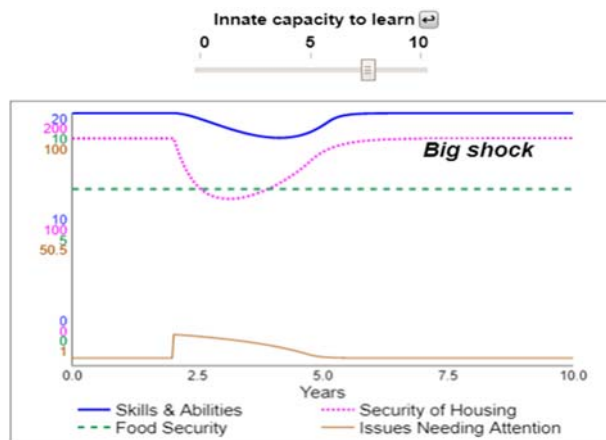


Figure 6. High skills prevent leads to recovery instead of collapse.

Help from Haven

The Haven, of course, intervenes to help people as part of its mission. Those interventions have some of the same characteristics as boosting the intrinsic ability of the individual but can be of limited duration.

Here is a big shock scenario in the case of an individual without extra capacities.

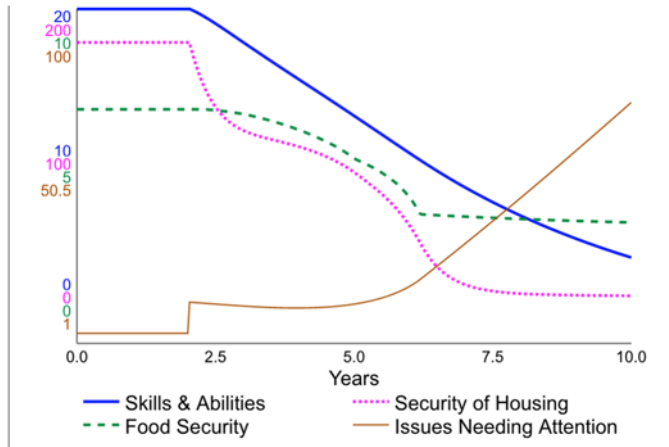


Figure 7. Big shock scenario

The next 4 figures show how help from the Haven with food, housing, skills and abilities, and dealing with issues change outcomes for their clients.

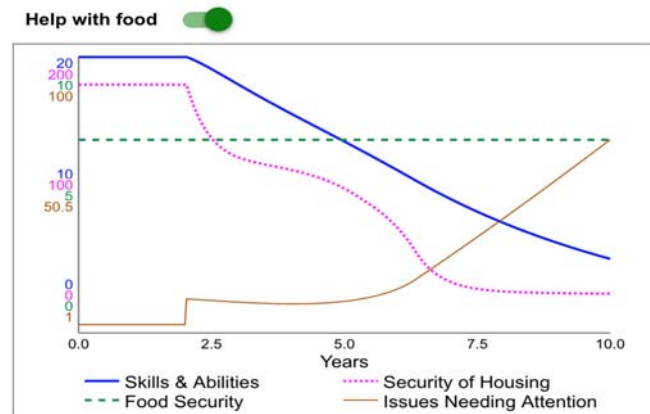


Figure 8. Help with food

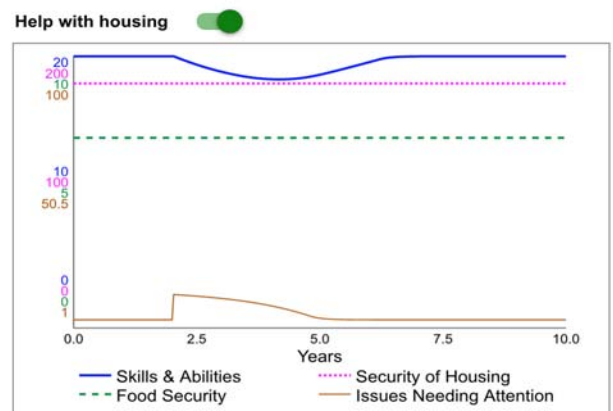


Figure 9. Help with housing

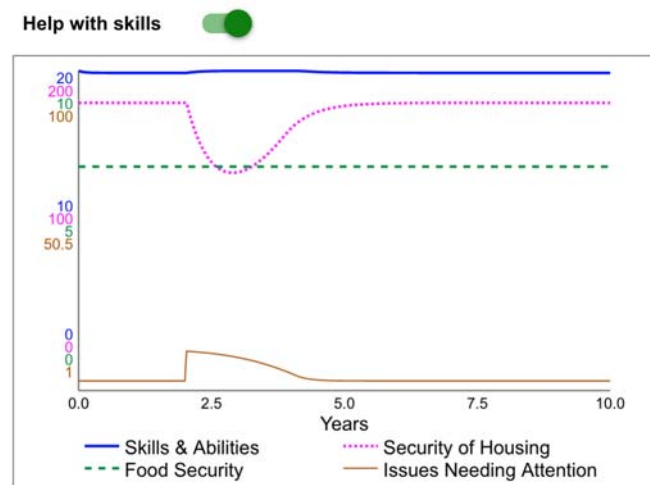


Figure 10. Help with skills and abilities

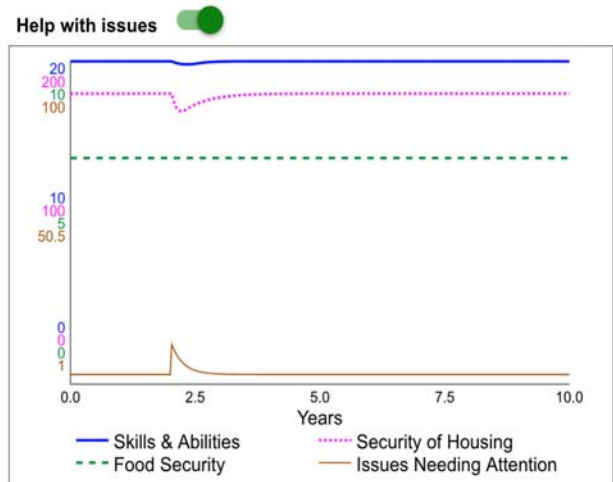


Figure 11. Help with issues

Shortcomings

We recognize that the representation of individual life trajectories is a dramatic simplification of reality. Consequently, we are missing many things. Important among these, is the lack of any representation of ways in which an individual might become dependent on interventions of the Haven (the shifting the burden to the intervener archetype (Senge 1990)). Given our purpose, this is not a huge shortcoming, but certainly if a donor wants to understand why that is not what will happen with their donation, the model would need to be extended to address this question.

Future Work

We are continuing to work with the Haven on the development of the model and interface. We plan to meet with current donors to learn what resonates with their philanthropic ideas. We hope to have the model ready for Haven fundraisers to use themselves to communicate the life changing and often life saving impacts their services can have.

The Haven has also expressed interest in an interactive model interface that Haven counselors can use with clients one on one that uses the basics of systems thinking. The tool would help Haven clients see the outcome of decisions and behaviors over time.

Conclusion

The model demonstrates the importance of basic necessities to people who live precariously close to poverty. One bad event can trigger a domino effect creating imbalance to the point of total collapse. And while some individuals have the capacity to resurrect their situation on their own, others need help.

Being able to show how a single unfortunate event can cause havoc in someone's life, and how providing help can turn that life, around makes it easier to understand the need for the Haven's work. It should provide more compelling insights to donors to contribute financially.

Work with the Haven will continue by looking at more individual stories to extract additional dynamics that can be incorporated into this or other models. Focus groups with donors to collect feedback about impact of the presentation will help us improve the model interface. So far the feedback we've received is encouraging and we look forward to delivering a tool that can help the Haven help others.

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