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Waste Not, Have Not: A Study on the Possible Symbiotic Relationship of Food Waste and Food Insecurity

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The University of Akron

Waste Not, Have Not:

A Study on the Possible Symbiotic Relationship of Food Insecurity and
Food Waste

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April 28, 2017

“When I fed the poor, they called me a saint.
When I asked why the poor are hungry, they called me a communist.”

Dom Helder Camara
Archbishop of São Paulo

INTRODUCTION

Maslow's hierarchy contains within it the levels of need that people are motivated to achieve. The needs range from the most basic, at the bottom of the triangle, biological and physiological needs -- air, food, shelter, drink, warmth, sleep—to the top of the triangle containing self-actualization needs which entails realizing personal potential, self-fulfillment, seeking personal growth and peak experiences (McLeod, 2007). The purpose of Maslow's hierarchy is to show that people, once one need is fulfilled, move towards fulfilling the next need in the hierarchy.

According to Maslow, it is impossible to transcend from one need to another without first satisfying the previous need and that needs cannot be skipped. Basically, one cannot go from meeting basic physiological needs to self-actualization without achieving the needs that fall between the two. It is important to look at this model when searching for what influences a person to make a decision, and what makes a person unable to move to the next stage in life.

Take the most basic need of the hierarchy for example. Here, a person needs air, food, shelter, drink, warmth and sleep (McLeod, 2007). Lacking just one of these, makes it extremely hard for a person to progress to the next step in fulfillment. This is why working towards reducing hunger and food insecurity is so important. Food is essential. It is what gives people the energy to complete their daily tasks. It is what brings families and friends closer together. It also is, unfortunately, something that is wasted in unfathomably large amounts, and is needed in even more.

In 2016 Twelve percent of the households in the United States are food insecure, which translates to 15.8 million households (Coleman-Jensen, Rabbitt, Gregory, & Singh, 2016). Fifteen point eight million families do not have enough food to thrive. Food security is defined as “access by all people at all times to enough food for an active, healthy life” (Coleman-Jensen et al, 2016). Included in the 15.8 million food insecure households are 7.8 million households that have children that were food insecure at times Coleman-Jensen et al, 2016).

These figures do not sound like they should be coming from a country like America, but hunger knows no bounds. The degree of food insecurity in America and the areas within are well known. What needs to be determined is what is causing people to not get the food they require, and a strategy to get food in places and to people that do not have access to food assistance programs. The purpose of this study is to look at these issues while analyzing innovative ways people are fighting hunger.

People across the world are coming up with innovative ways to combat food insecurity. One of these ways is the Community Fridge, in New Zealand. The Community Fridge is a free food fridge, which allows anyone to take what they need, while simultaneously being an outlet for people to donate food that would otherwise be wasted, thus fighting both food insecurity, and food waste (“The Community Fridge: Reducing Food Waste”, 2016). This idea is gaining popularity, as fridges like this are popping up in more and more places. The Community Fridge is the basis for the Good Neighbor Fridge, the proposed project in this study. The goal of the study is to test the feasibility of a project like this in the Northeast Ohio region.

Fighting Food Insecurity

Food insecurity can be thought of as something along a spectrum. Williams' research suggests, "The least severe form is people who are uncertain of being able to obtain food in socially acceptable ways, to the most severe form where people simply do not eat enough due to insufficient resources and thus experience the physical and psychological consequences of hunger" (Williams, 2002). Essentially, food insecurity cannot be used as a one-size-fits-all description for those struggling with it. The term has varying degrees of severity, but all degrees should be evaluated when trying to develop resources to decrease food insecurity.

The least severe form, being unable to obtain food in socially acceptable ways is interesting. There is a stigma associated with accepting charitable donations of food which suggests it is not a normal distribution of food and therefore is socially unacceptable (Riches, 2002). Those that use these channels of getting food assistance are considered to be food insecure because the channels themselves are considered to be socially unacceptable, suggesting that the people do not want to be associated with these programs due to the status society has associated with them.

Families that need food but cannot afford to go to a traditional supermarket might need the food from a food pantry. They might not choose to use it however, because of the stigma. Suggesting that is what is creating this form of food insecurity. Associations exist that make receiving food from a food pantry socially unacceptable. One business is working to fight this stigma.

Daily Table is a not-for-profit retail grocery store (Daily Table: About Us, 2015). They are similar to a lot of other grocery stores when it comes to their product offerings, but they differ greatly in their prices and how they get their food. Daily Table is able to offer very affordable food because they work with “a large network of growers, supermarkets, manufacturers, and other suppliers who donate their excess, healthy food to us, or provide us with special buying opportunities.” (Daily Table: About Us, 2015). Excess food from these places would likely be wasted if it was not donated. One of their main goals is to be able to offer food “in a respectful manner that honors our customer, engendering dignity” (Daily Table: About Us, 2015). Daily Table is reducing food waste while also offering wholesome food for any budget. There are other innovative ideas aimed at reducing food insecurity and food waste.

The Community Fridge was started by Amanda Chapman in Auckland, New Zealand. She started the initiative because she had worked at a supermarket and saw how much food they were throwing out. The vast majority of the food was perfectly fine, but was past the sell by date (“The Community Fridge: Reducing Food Waste”, 2016). The Community Fridge serves as a place where supermarkets can take the food that would be thrown away. The fridge is open all day and anyone can use it. There are rules that must be followed to keep consumers safe. Items that can be donated are fresh fruit and vegetables, canned goods, packaged food past their best before date and cooked food can be donated, but it must come from registered kitchens with a current food safety certificate (“The Community Fridge: Reducing Food Waste”, 2016). The fridge does not accept unsealed food, raw fish, meat, eggs, milk, and cooked food that does not come from a registered kitchen. There is also a labeling system to make it known what the food is, when it was donated and when the food should be consumed by. Volunteers are

responsible for upkeep of the fridge, inspecting it twice a day (“The Community Fridge: Reducing Food Waste”, 2016). Fridges like this are popping up in other places like the U.K. and Spain.

Move for Hunger is a “non-profit organization that works with relocation companies to collect non-perishable food items and deliver it to food banks all across North America” (Move for Hunger: About Us, 2017). Move for Hunger partners with over 700 relocation companies across 50 states and Canada. They have delivered over 7,000,000 pounds of food to food banks. Their movers pick up unwanted food items from those that are moving and deliver them to food banks (Move for Hunger: About Us, 2017).

Food banks play a huge role in the redistribution of food. Food banks can be defined as, “centralized warehouses or clearing houses registered as non-profit organizations for the purpose of collecting, storing and distributing surplus food (donated/shared), free of charge either directly to hungry people or to front line social agencies which provide supplementary food and meals” (Riches, 1986). Feeding America is the nation’s largest private hunger-relief organization with a network of about 200 food banks across the country. About 32,400 food pantries, 4,000 soup kitchens and 3,600 emergency shelters are provided food from the nearly 200 food banks that Feeding America has in their network. It is estimated that the reach of Feeding America is about 46.5 million people a year, or about 1 in 7 Americans (Feeding America, 2014).

Food Accessibility

Totaling up the agencies that food banks provide assistance to come to about 40,000. This represents 40,000 agencies nationwide that provide food assistance (Feeding America, 2014). This is also not taking into account the numerous agencies that exist that are not associated with food banks through Feeding America. These agencies are the establishments that provide access to the food for those that need it. Food access is the means by which food security is satisfied and is one of three key terms necessary to understanding food insecurity. These terms are food availability, food access and food utilization (Williams 2002). These all must be present in order to help those that are food insecure.

A study done by the Sustainable Food Center (SFC) on the impoverished community of East Austin, Texas looked at the availability of food in neighborhoods and how residents accessed it. The Sustainable Food Center found that many shoppers “lack transportation and needed to rely on carpooling, buses, taxicabs and walking to get to food stores” (Williams, 2002). Due to this lack of access to food stores residents did not shop at their preferred stores, but instead at those that were most convenient to them. These stores ended up being convenience stores because they were closer in distance (Williams, 2002). The SFC found that of the 38 convenience stores in East Austin, “only five offer a selection of food choices from which it would be possible to cook a nutritious, balanced meal.” This shows that while options for food assistance could be available they might not be accessible.

Areas like this are not limited to East Austin. People all over the U.S. deal with a lack of having food readily available due to food stores not being nearby, lack of self-transportation or lack of public transportation. According to Dana Williams’ study on food security and access, “zip code areas with the highest public assistance levels also had the fewest stores per capita.

Vehicle ownership also drops drastically with higher levels of public assistance.” The lack of vehicle ownership makes it difficult for individuals to get the food they need, especially if they do not necessarily have enough money to acquire the food.

Public Assistance Programs

Knowing that areas containing families with higher levels of public assistance correlates with less vehicle ownership, it would make sense for food assistance programs to be within walking distance. Public assistance that these families receive could be SNAP or WIC benefits, which provide food assistance, signaling that these families could benefit from access to a food pantry. If a food pantry were within walking distance it would provide abundant value to an area that has many residents fitting this description. If public transportation is available, putting bus stops near already existing food pantries would be a great way to help those that lack a vehicle for self-transportation.

It is especially important to take into account that even though a family may receive benefits like SNAP or WIC, the allowance in these programs is monthly and based on household size. Budgeting an allowance for food over an entire month can be difficult, and many times is not enough. The typical U.S. household spends about 50 dollars per person weekly (Coleman-Jensen et al, 2016). To put this into perspective a household with four people, according to the average, would spend nearly 800 dollars every month on food.

“The Supplemental Nutrition Assistance Program (SNAP), formerly the Food Stamp Program, provides monthly benefits to eligible low-income households to purchase food items

at SNAP authorized retailers” (Coleman-Jensen et al, 2016). SNAP provides assistance to nearly 45.8 million Americans. The benefits these American’s receive average to be about \$127 a month per person (Coleman-Jensen et al, 2016). The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) is “a federally funded preventive nutrition program that provides grants to States to support distribution of supplemental foods, health care referrals, and nutrition education for low-income mothers... infants in low-income families; and for children in low-income families who are younger than 5 years old” (Coleman-Jensen et al, 2016). WIC provides vouchers that can be used to acquire supplemental food packages at specified food stores. The average benefit for WIC users is about \$44 per person per month (Coleman-Jensen et al, 2016). When adding up the average benefits of these two programs they come out to be \$171 per person a month.

This is of course if the families qualify for both programs. A gap can be seen between the assistance people are receiving (\$171) and the assistance people need (\$200). Federal nutrition assistance programs do not reach everyone at risk of hunger in the United States. “An estimated 27 percent of the food-insecure population in 2012 had household incomes above the standard eligibility thresholds for federal nutrition assistance programs” (Mill et al, 2014). This means that 27 percent of the 15.8 million households that are food insecure in the United States cannot rely on federal nutrition assistance programs. They must rely on assistance from charitable donations, like food pantries.

When thinking in terms of Maslow’s Hierarchy, if a child has to go without food, or is worried about where their next meal is going to come from, it is essentially setting them up for failure, or at the very least slowing their progression. If one child goes to school with a full

stomach and a healthy lunch packed, and another goes to school hungry, with no lunch, those children will likely have very different days. There are multiple mechanisms that exist that may explain the link between food insecurity and developmental outcomes. One such mechanism is that food insecurity causes decreased dietary quality and quantity. “Food-insecure households had lower consumption of fruits and vegetables, had less food on hand, and had lower intakes of dietary fiber and other vital nutrients compared with food-secure households” (Jyoti, Frongillo, Jones 2005). The National School Lunch program and other initiatives have been created to counter this.

The National School Lunch Program operates in over 100,000 public and nonprofit private schools and residential child-care institutions. Meals served under the program receive Federal subsidies, and free or reduced-price lunches are available to low-income students (Coleman-Jensen et al, 2016). In 2015, the program provided lunches to an average of 30.5 million children each school day. Of these lunches sixty-five percent of them were free, and an additional 7 percent were provided at reduced prices (Coleman-Jensen et al, 2016). School breakfast programs have been created as well to give students a guarantee of more than one meal a day. The problem is that kids do not spend their whole day at school. The support in aiding those dealing with food insecurity must help at home too. After school lunch bag packing programs, such as the PB&J program at Mason Elementary school in Akron, Ohio was created to help with that problem. This initiative revolved around packing bags for kids at the school to take home. These bags contain enough food for a couple of meals.

Food Wasted

An overlooked aspect about hunger in America and a possible solution, or aid for it, is in how much food is wasted in America from farm to table. The amount of food that is wasted in the U.S. is staggering. Nearly 40% goes uneaten, totaling about \$165 billion in wasted food (Gunders, 2012). This is 40% of the whole food supply that could be put to use to benefit those in need. While the food is lost at different levels that could not be given to those that are food insecure, such as with production losses, postharvest, handling and storage losses, and processing and packaging losses, the majority of the food lost, is at the distribution, retail and consumer level. 38% of grain products are lost in total, for seafood it is 50%, fruits and vegetables 52%, meat 22%, and milk 20% (Gunders, 2012). Consumers waste more food in all of these categories than all of the other levels of the food supply chain. Consumers waste 27% of grain products, 33% of seafood, 28% of fruits and vegetables, 12% of meat and 17% of milk (Gunders, 2012). High levels of loss in retail and consumer levels is concerning, because these are the areas where food donations should be coming from.

Getting food that would otherwise be wasted on the plates of those who need it should be a top priority. One initiative that was started in California, called the farm to family program, was created to reduce the amount of produce wasted at farms by getting it to be donated to the food bank at a significantly reduced price. This program recovers over 120 million pounds of produce from farmers per year for distribution to food banks (Gunders, 2012).

While logistics must be kept in mind for programs of this nature, such as labor, transport and receiving, this is a step in the right direction of repurposing food that would otherwise be

wasted to folks that need it. Farm to Family covers the cost of “additional labor, handling, packaging, refrigeration, and transport” (Gunders, 2012). This provides food banks with fresh produce at a greatly reduced price. The growers are able to deduct the charitable donation of the produce from their taxes, making the program of benefit to all.

Methods

A survey was developed to distribute among those that operate food pantries in the Northeast Ohio area. This was done working in tandem with the Akron-Canton Regional Foodbank. The survey was approved through the Institutional Review Board at The University of Akron. The goal was to have the foodbank distribute the survey to their network partners, as their network includes 500 food pantries, hot meal sites, shelters and other hunger relief programs (Akron-Canton Regional Foodbank: About Us, n.d.). When developing the survey, the foodbank was consulted in order to determine the best questions to ask and to help validate the survey tool.

The goal of the survey was to get a better understanding of the pantries in Northeast Ohio, by directly surveying those who run the agencies and serve those considered to be food insecure. Some of the main objectives of the survey were to see what environment their agency was located in and if this played a role in accessibility issues, such as transportation. Transportation was another key objective, as the thinking was that lack of personal transportation and walkability of pantries could result in the food insecure being unable to get to assistance.

An additional goal included seeing how many children agencies served on a regular basis. Information on children is important to gather as one school of thought is to have pantries, or food assistance programs centered in or around schools. Schools are beneficial to programs like this because they are easily accessible. Many students have transportation to and from school with busing or parents already having to take their child to and from school, thereby making access for those in need easier.

The survey also contained questions asking about the feasibility of a project such as the Good Neighbor Fridge. A link to a video showing the “Community Fridge” in New Zealand is included in the survey. The proposed idea, The Good Neighbor Fridge, is similar to this. The respondents were asked how well The Good Neighbor Fridge would work in the area they serve. The survey given is as follows.

Good Neighbor Fridge

Q1 You are invited to take part in a research survey about food insecurity. Your participation will require approximately 5 minutes. This survey is intended to provide insight on the state of food insecurity in Northeast Ohio and surrounding areas, and how to possibly combat food insecurity issues. Taking part in this study is completely voluntary. If you choose to be in the study you can withdraw at any time without adversely affecting your relationship with anyone at The University of Akron. Your responses will be kept strictly confidential. Any report of this research that is made available to the public will not include your name or any other individual information by which you could be identified.

Luke Rocco is a student at the University of Akron working on this project. The Akron-Canton Regional Foodbank is not conducting this survey, and partner agencies are encouraged, but not required, to participate.

If you have questions or want a copy or summary of this study’s results, you can contact the researcher at Lar55@zips.uakron.edu. Do you agree to take this survey?

- Yes (1)
- No (2)

Condition: No Is Selected. Skip To: End of Survey.

Q2 How long have you been involved with food pantries?

- <1 Year (1)
- 1-3 Years (2)
- 3-5 Years (3)
- 5-10 Years (4)
- 10-20 Years (5)
- 20 and Above Years (6)

Q3 What city is your agency located in?

Q4 What environment is your agency located?

- Urban (1)
- Rural (2)
- Suburban (3)
- Other (4) _____

Q5 How many days each month is your agency open to the public?

- 1 -2
- 3-4
- 5-6
- 7 or more

Q6 What percent of people that arrive at your facility fit these descriptions

- _____ Alone (1)
- _____ As a couple (2)
- _____ In a small group (3)
- _____ In a large group (4)
- _____ With a family (5)

Q7 What percentage of the different ethnicities listed use your facilities

- _____ White (1)
- _____ Hispanic or Latino (2)
- _____ Black or African American (3)
- _____ Native American or American Indian (4)
- _____ Asian/Pacific Islander (5)
- _____ Other (6)

Q8 On average, how many households do you serve each month?

- 0-15 (1)
- 16-25 (2)
- 25-40 (3)
- 40-75 (4)
- >75 (5)

Q9 Where does most of your food come from?

- Food Bank (1)
- Private donations (2)
- Business donations (3)
- Community Garden (4)
- Not sure (5)

Q10 How do most people arrive at your agency?

- Walk (1)
- Bike (2)
- Bus (3)
- Self transportation (4)
- Not sure (5)
- Other (6) _____

Q11 How close is the nearest bus stop to your agency?

- Less than a mile (1)
- 1-2 miles (2)
- 2-5 miles (3)
- >5 miles (4)
- Not Sure
- My community has no public transportation

Q12 How many households with children are served by your agency in an average month?

- 0-15 (1)
- 16-25 (2)
- 25-40 (3)
- 40-75 (4)
- >75 (5)

Q13 How strongly do you agree/disagree with the following statements?

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
Most people that visit your agency live within walking distance. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Access points for food assistance that are within walking distance would increase use. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Food drop-off points that are within walking distance would increase donations in communities. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There are under represented areas with less than adequate access to food pantries. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q14 Please enjoy the brief video below and then answer the following questions as they relate to the video.

<https://youtu.be/amhQQvRD4RM>

Q15 After watching this video do you believe something similar to this would be beneficial to the area you serve?

- Yes (1)
- Maybe (2)
- No (3)

Q16 What would be the community reaction to a Good Neighbor Fridge?

- Very positive (1)
- Somewhat positive (2)
- Neither positive nor negative (3)
- Somewhat negative (4)
- Very Negative (5)

Q17 The idea behind the Good Neighbor Fridge is take what you need, leave what you can. How likely is it that those that are not necessarily in need of food assistance would get involved with this cause?

- Extremely likely (1)
- Moderately likely (2)
- Slightly likely (3)
- Neither likely nor unlikely (4)
- Slightly unlikely (5)
- Moderately unlikely (6)
- Extremely unlikely (7)

Q18 How effective would a concept like the Good Neighbor Fridge be in bringing a community closer together?

- Extremely effective (1)
- Very effective (2)
- Moderately effective (3)
- Slightly effective (4)
- Not effective at all (5)

Q19 Please feel free to use this space to offer any additional thoughts on the Good Neighbor Fridge, or food pantries in general.

There were 19 total questions. The majority of questions were multiple choice.

Questions six and seven were asked to give demographic information with percentages, which respondents were able to give their own answers on a scale 0-100%. Questions three and

nineteen, were open ended, and the survey takers were able to respond any way they pleased. The other differing question was thirteen, which gave a list of statements, and asked respondents to rate how strongly they agree or disagree with them.

Results

The survey was delivered to 26 individuals that serve 26 different agencies associated with the Akron-Canton Regional Foodbank. Of the 26 that were contacted 15 responded, resulting in a 58% participation rate. The survey was delivered through email on the survey program Qualtrics. All responses were kept anonymous.

Of the 15 individuals that took the survey, there were four from Akron, OH, two from Greentown, OH, and the following cities in Ohio each had one respondent, Ravenna, Waynesburg, Twinsburg, Atwater, Cuyahoga Falls, North Canton, Barberton, Dover, and, lastly, Glenmont.

To get a better idea of what community these agencies reside in, respondents were asked what environment they are located in. Figure 1 shows the results of this question.

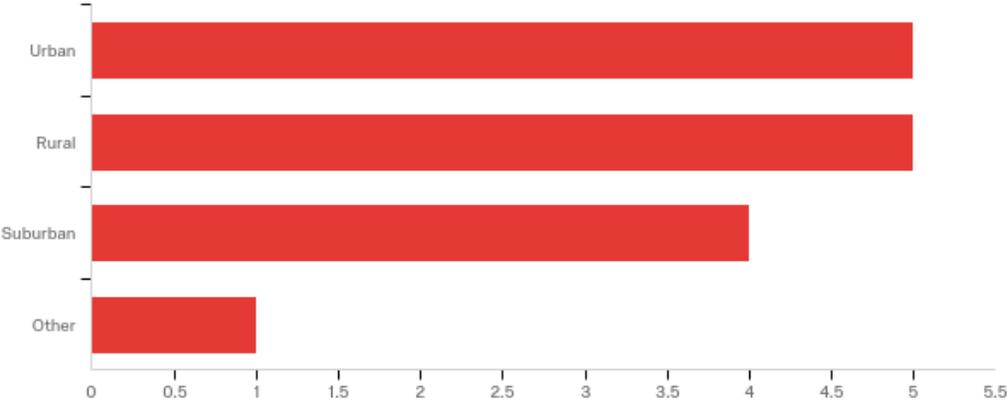


Figure 1

This information is useful in helping to understand the responses to question eleven. According to the survey, six of the agencies have bus stops less than a mile away. Four agencies have a bus stop 1-2 miles away. The other five respondents answered with they are either not sure of the distance, or, their community has no public transportation. It is possible that those unsure of a bus stops distance is due to their community having a lack of public transportation and therefore, no bus stop.

The majority said that their agency resides within a mile or two of a bus stop, but in question ten, when ask how most people arrive at their facility, only one person responded with bus and the rest said people arrive by self-transportation. All respondents serve over 40 households each month. Five serve between 40 and 75, ten serve over 75 households.

Figure 2 shows how many days each month respondent's agencies are open to the public. Six have their agencies open seven or more days, and six only have their doors open one to two days a month.

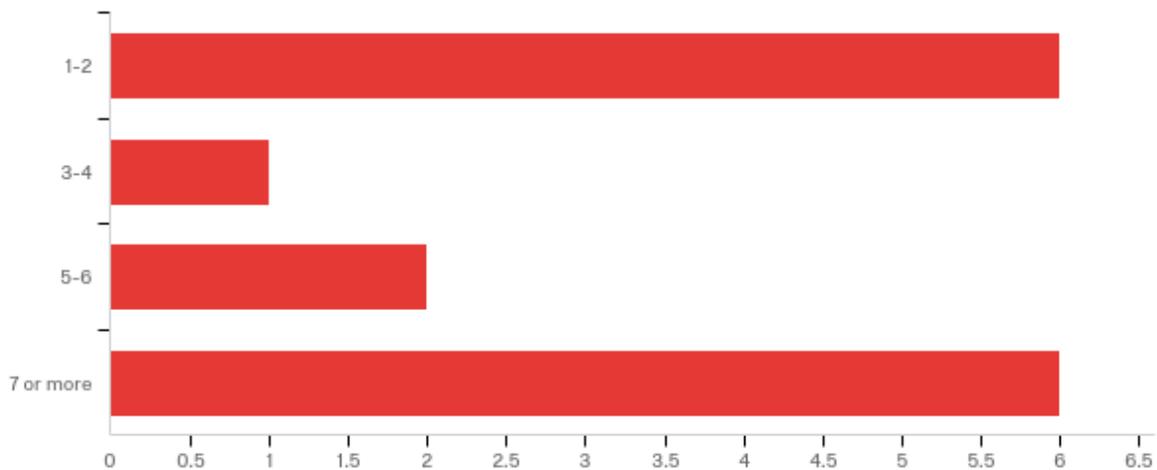


Figure 2

It was determined from question six that over half of the people that come to their agencies arrive alone. 21% arrive as a family, 20% arrive as a couple, 13% arrive in a small group, and 4% arrive in a large group. Most of the food that the agencies receive comes from the foodbank, only one agency receives most of their food from private donations. Figure 3 shows how many households with children their agencies serve. Nine agencies serve over 75 households with children, three serve 45-75 households with children, one serves 25-40 and two serve 16-25.

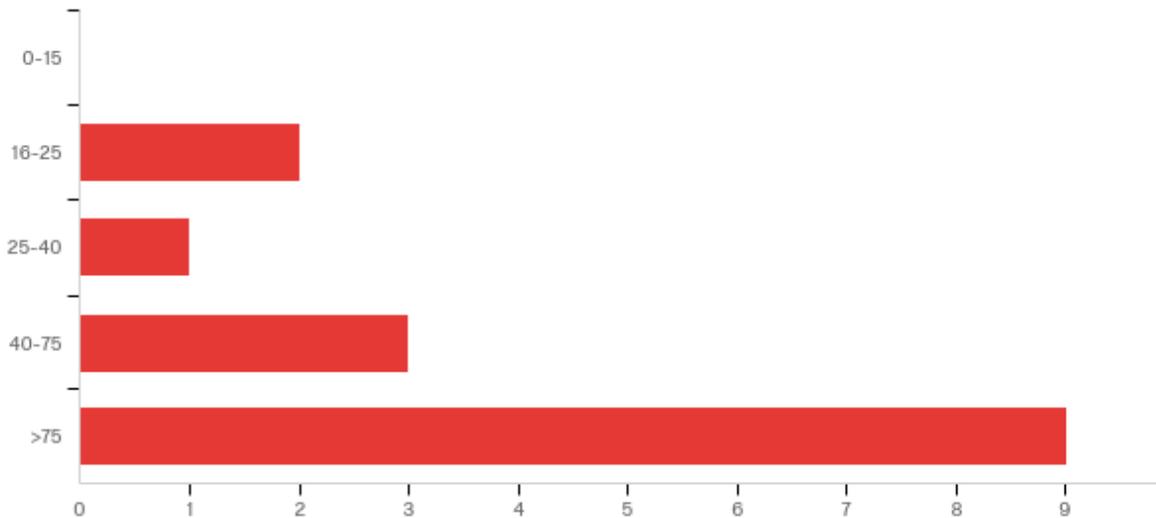


Figure 3

Questions 15 through question 18 focused on the Good Neighbor Fridge concept. Five respondents believed the fridge would be beneficial to the area they serve, seven believed that the fridge would maybe be beneficial to the area they serve and only one thought the project would not be beneficial to their area. Three respondents believed the community reaction to a Good Neighbor Fridge would be very positive, seven believed the reaction would be somewhat positive, two believed the reaction would be neutral, and two believed the reaction would be somewhat negative. Figure 4 shows the responses to how likely it would be for someone who is

not in need of food assistance to get involved with the cause of the Good Neighbor Fridge.

Three respondents believed the Good Neighbor Fridge would be extremely effective in bringing a community closer together, seven believed it would be moderately effective, three slightly effective and one not effective at all.

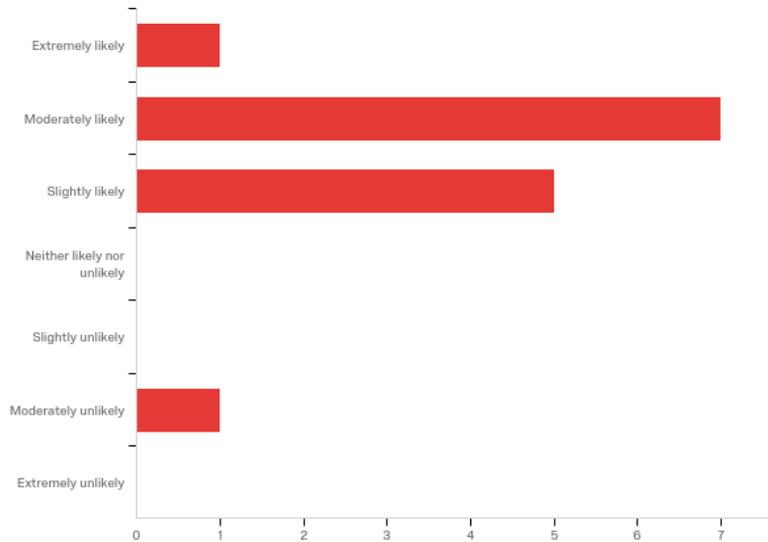


Figure 4

#	Field	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree	Total
1	Most people that visit your agency live within walking distance.	33.33% 5	33.33% 5	26.67% 4	0.00% 0	6.67% 1	0.00% 0	0.00% 0	15
2	Access points for food assistance that are within walking distance would increase use.	6.67% 1	6.67% 1	6.67% 1	6.67% 1	20.00% 3	33.33% 5	20.00% 3	15
3	Food drop-off points that are within walking distance would increase donations in communities.	0.00% 0	26.67% 4	6.67% 1	46.67% 7	6.67% 1	6.67% 1	6.67% 1	15
4	There are under represented areas with less than adequate access to food pantries.	13.33% 2	13.33% 2	0.00% 0	6.67% 1	13.33% 2	26.67% 4	26.67% 4	15
5	How strongly do you agree/disagree with the following statements?	0.00% 0	0.00% 0	0.00% 0	25.00% 1	50.00% 2	25.00% 1	0.00% 0	4

Showing Rows: 1 - 5 Of 5

Figure 5

Figure 5 displays the results from question thirteen, when respondents were asked how strongly they agree or disagree with the statements shown. Question 19 open ended question asking those surveyed to leave any final thoughts. Six of those surveyed responded. Some of the responses to question 19 included that one respondent feared someone might tamper with the food. Another believed that the Good Neighbor Fridge would not work in the area they serve because people would take more than they need and not leave enough for others. One of the respondents serves over 400 households a month and believed the program was geared more towards helping the homeless and not assisting food pantries. On the other side one individual stated, the GNF is “An interesting concept, and one worth discussing in more detail to see if it would make sense in our service area.” Another said they would like to have further discussions about the GNF with their pantry board and left their contact information.

DISCUSSION

The knowledge gained from both the literature and the study sheds some light on what the biggest issues are surrounding food insecurity. The government assistance programs in America that are designed with the specific purpose of providing food for the underserved are not able to provide the amount needed for families to be food secure. The average amount of assistance these programs provide is \$127 per person per month from SNAP benefits which is less than the \$200 average amount of food a person needs per month to be food secure. This does not take into account the 27 percent of those that are food insecure that are unable to receive federal aid because they lie above the household income standard eligibility threshold (Mill et al, 2014). These households must solely rely on charitable donations in order to have

enough food. The National School Lunch Program is extremely valuable. It makes sure kids are able to have at least two meals a day. However, this program does not directly help a huge portion of Americans that go hungry every day; low-income adults. This should not have to be the case.

While many food pantries, soup kitchens and emergency shelters have far reaches when it comes to serving Americans, about 1 in 7, food availability, food access and food utilization must all be accomplished in order to decrease food insecurity. Food must be available in order for it to be any benefit to the hungry. The availability of food should be no problem in America. The U.S. has a huge supply of food, but we waste nearly 40 percent of it from farm to table (Gunders, 2012). The agencies that are in existence right now do an incredible job at serving those in need, but if America could increase food availability by cutting the number of wasted food to even just 30 percent, there would be millions of pounds of food that could be put to good use. This would be millions of pounds of food that could then go to these agencies, making them even more effective.

A serious look needs to be taken at the country's wasteful ways. There are social entrepreneurial ventures that should serve as a blueprint for the future of fighting hunger. Daily Table, Move for Hunger, and The Community Fridge are perfect examples of these. These initiatives increase food access. The study done by the Sustainable Food Center in East Austin, Texas shows how difficult food access can be in some areas. According to their study many residents in areas of high public assistance lack the option of self-transportation, requiring them to carpool or take the bus.

The survey administered in this study showed that one third of the respondents did not have a bus stop near their agency, or they had no public transportation. This makes obtaining food access for those in areas of high public assistance very difficult. Even if a pantry exists in a community for a person that needs food assistance, this pantry might not be accessible for them. One thought is that lack of transportation could be preventing people from getting the help they need. A remedy for this issue is creating smaller scale pantries that are more numerous and based on neighborhood boundaries therefor increasing access for all in a community and not just those that live nearby a food pantry. The project proposed in this study, The Good Neighbor Fridge, could be the answer.

The Good Neighbor Fridge (GNF) is based on the same values and concepts as The Community Fridge discussed earlier. The GNF is centered on the idea of neighbors helping neighbors. It is not a program for those of a certain income or demographic, it is for everyone to use whether that be on the donation side or receiving side. The use of the fridge by everyone would make great strides for the social acceptability of food assistance. Theoretically, the least severe form of food insecurity, people uncertain of being able to obtain food in socially acceptable ways (Williams, 2002), can be solved by creating a socially acceptable way of accepting charitable donations. The way to do this, is by getting a community involved in which everyone uses the program.

The GNF not only increases food access for those needing assistance but it also creates easier access for those that are looking to donate food that would otherwise be wasted. This creates a unique opportunity for people to help a neighbor down the street, which they may never had known was struggling with putting food on the table. Businesses like restaurants and

grocery stores would also be able to use the GNF as an outlet to donate their unused food that would otherwise be wasted.

Another aspect where the GNF thrives is that it is able to be open at all times. 6 of the respondents in the survey said their agency was only open 1-2 times a month. If that agency is a person's only source to get the food they need when SNAP benefits run out, 1-2 days a month might not be enough to get them through. Having the GNF as another option would be beneficial to someone in this situation. Especially if it is easily accessible.

Noting how many families and children the agencies surveyed serve is important. Twenty one percent of the people that come to these agencies come as a family, and nine agencies serve over 75 households with children, three serve 45-75 households with children, one serves 25-40 and two serve 16-25. Over half of the agencies surveyed serve over 75 households with children. Based on this information it would make sense to put access points for food assistance where families and children already travel, i.e. schools, libraries, churches.

Those surveyed were asked questions about the theoretical GNF to get the opinion of those experience with food pantries. The overall reaction to the GNF was positive. Two of those that were surveyed wanted to discuss further to see if the GNF would be of benefit in the area they serve. This is success. The survey showed that people would be open and receptive to a concept like this. The literature shows that a program like the GNF is needed to provide greater access to food, especially food that would otherwise be wasted. The interested parties that were surveyed will be contacted. An open discussion about the actual implementation of this idea is the next step in making The Good Neighbor Fridge a valuable asset to a community.

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