

Knox County Community Food Systems Survey

Background and Select Findings
September 18, 2023

Thre3³
Fostering equitable, sustainable futures

Acknowledgement and Appreciation

Survey Participants in Knoxville and Beyond

Survey Partners

- Knox Pride
- SEED Community Engagement Specialists
- UT CARE
- KCDC
- Learn Play Sign
- United Methodist Church
- Wesley House

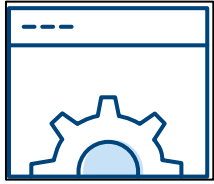
Advisory Committee Members

Core Assessment Team

- United Way of Greater Knoxville – Kimberly Pettigrew
- Knox County Health Department – Madelyn Howe
- Jasmine Bryant – Women with Vision
- Jinx – Community Homelessness Advocate



Community Food System Survey Approach



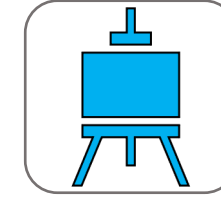
Survey Design

- Administer a food systems survey representative of the people living in Knox County with particular outreach to those known to experience adverse impacts across the food system (included \$50 participation incentive)
- Modify the survey instrument and approach to be inclusive and accessible for all groups



Data Analysis

- Perform basic and sophisticated analysis within and across the different surveys completed with different groups
- Create maps to illustrate food systems findings across Knox County communities



Next Steps

- Prepare findings for Food Systems Assessment committee members for feedback and interpretation.
- Inform the development of community food plan with shared community outcomes
- Use survey findings to help inform new policy and programs to advance the Knox County food system
- Disseminate findings back to communities and make data public

Community Food Systems

Topic Areas and Indicators

10

Household Composition

- Caregiving
- Owner or renter
- How long lived in Knoxville

9

Food & Nutrition Security

- Defining food insecurity
- Measuring food insecurity
- Nutrition

27

Food Access

- Healthy foods
- Cultural foods
- Transportation

10

Food & Nutrition Assistance

- Types of food assistance
- Food pantry experiences

7

Growing Food

- History
- Interest
- Education and supplies

17

Cooking Utilities, Tools & Education

- Access
- Gatherings
- Education

9

Health Status

- Physical + mental health
- Rest and sleep
- Status (diabetes, heart)

5

Community Satisfaction

- Social cohesion
- Dignity
- Participation

9

Basic Essentials

- Trade-Offs (rent, utilities, medication)

8

Stress, Trauma & Dignity

- Stress and time
- Discrimination
- Safety

10

Economic Opportunity

- Food Sovereignty & Participation
- Solutions

10

Employment and Education

- Jobs in food system
- Education status
- Wealth

10

Demographics

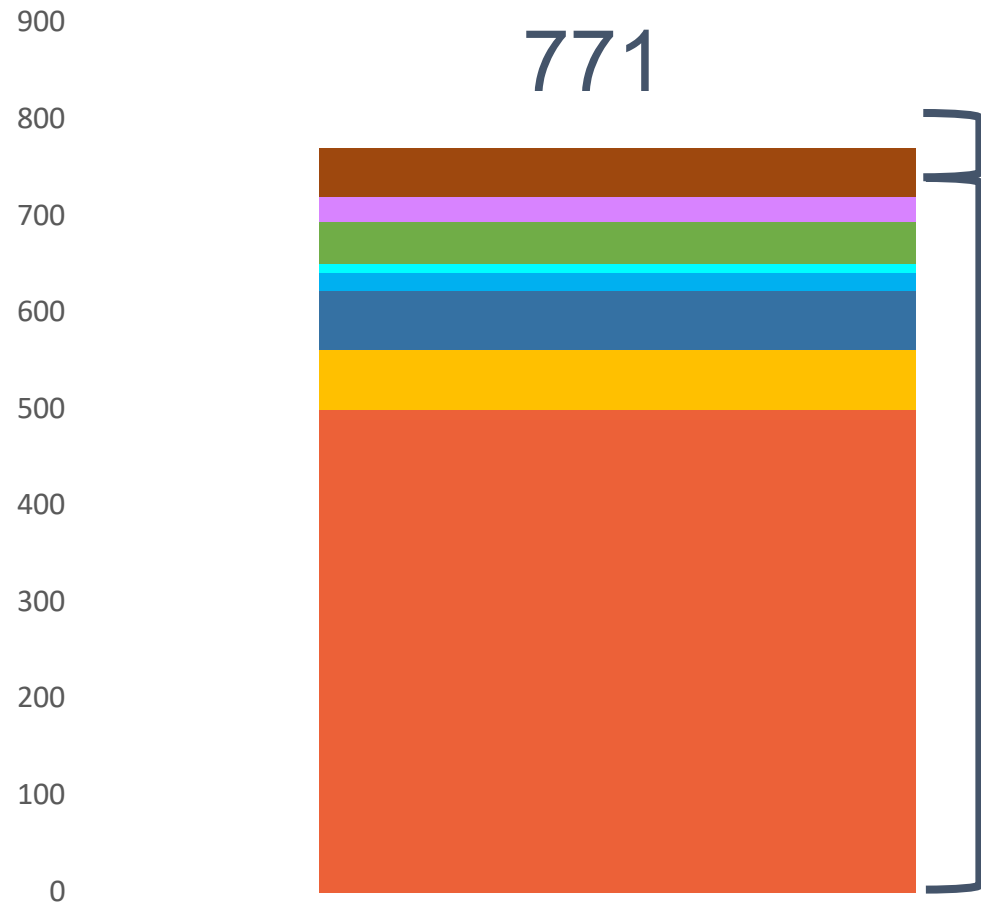
- Race and ethnicity
- Language
- Gender and sexuality

Community Food System Survey Composition (% of Questions)

Organized into 13 different Categories



Knoxville Community Food Systems Surveys by Partner



Youth Surveys

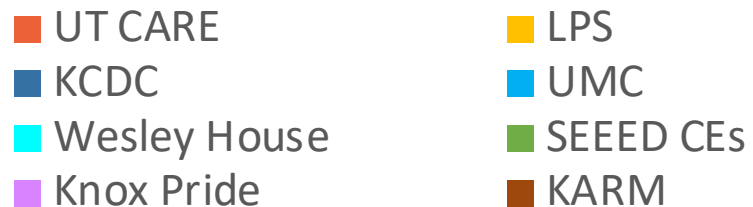
- Knox Pride (25) + SEEED CEs (44)

Adult Surveys

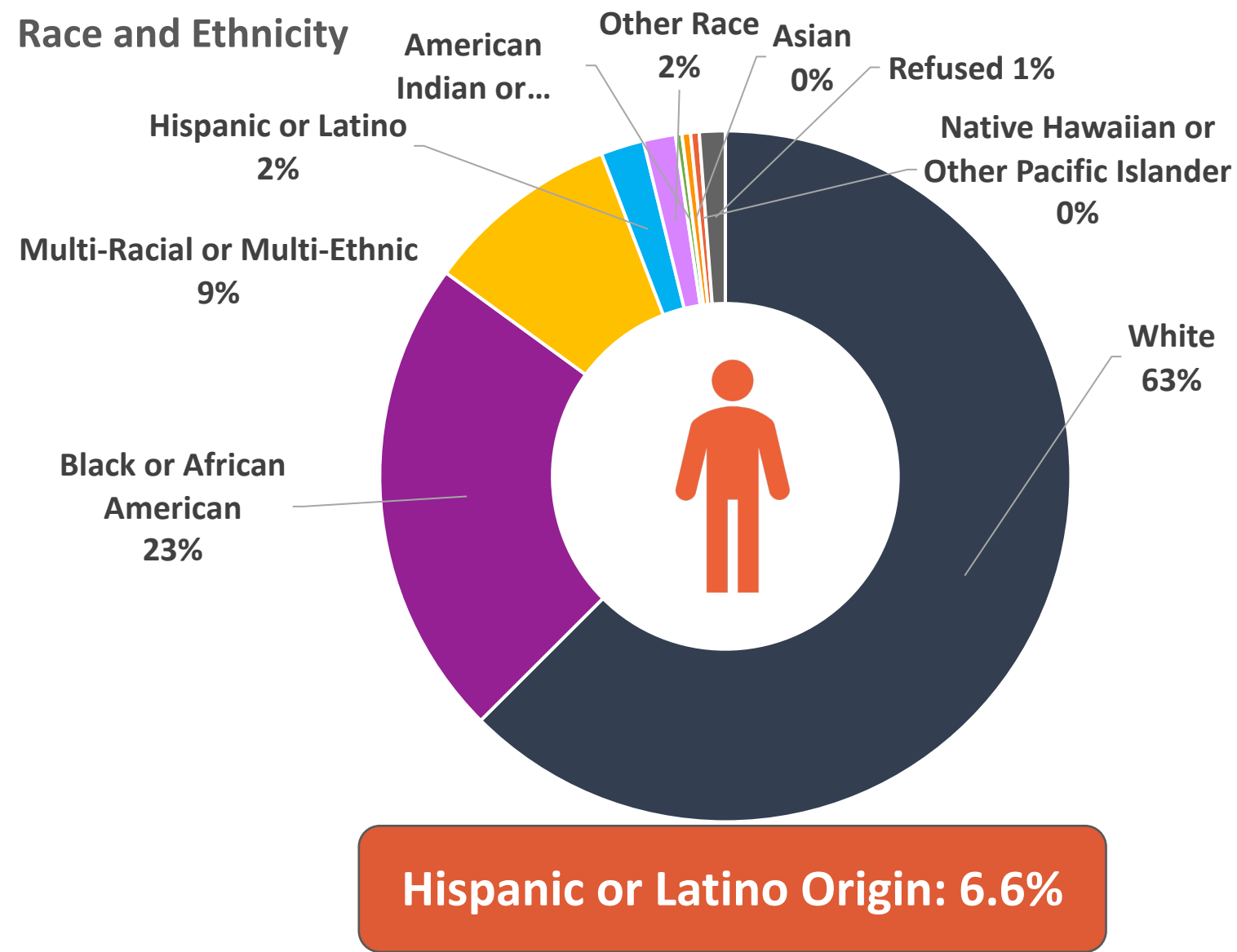
- UT CARE (500)
- KCDC Properties (61)
- Learn Play Sign (63)
- United Methodist Church (19)
- Wesley House (9)

Next Steps

- Preliminary analysis revealed underrepresentation of some populations (Underscores the importance of the CBO projects)
- Additional outreach for survey and focus group activities to include:
 - Justice-involved populations
 - Veterans



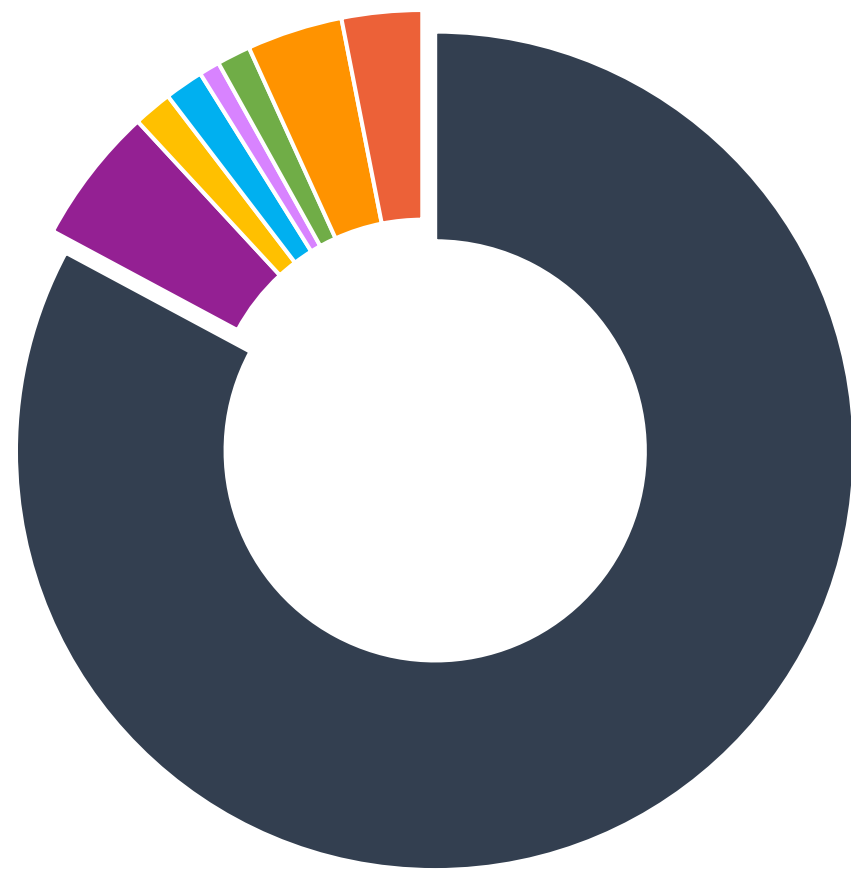
Community Food Systems Surveys (771 households)



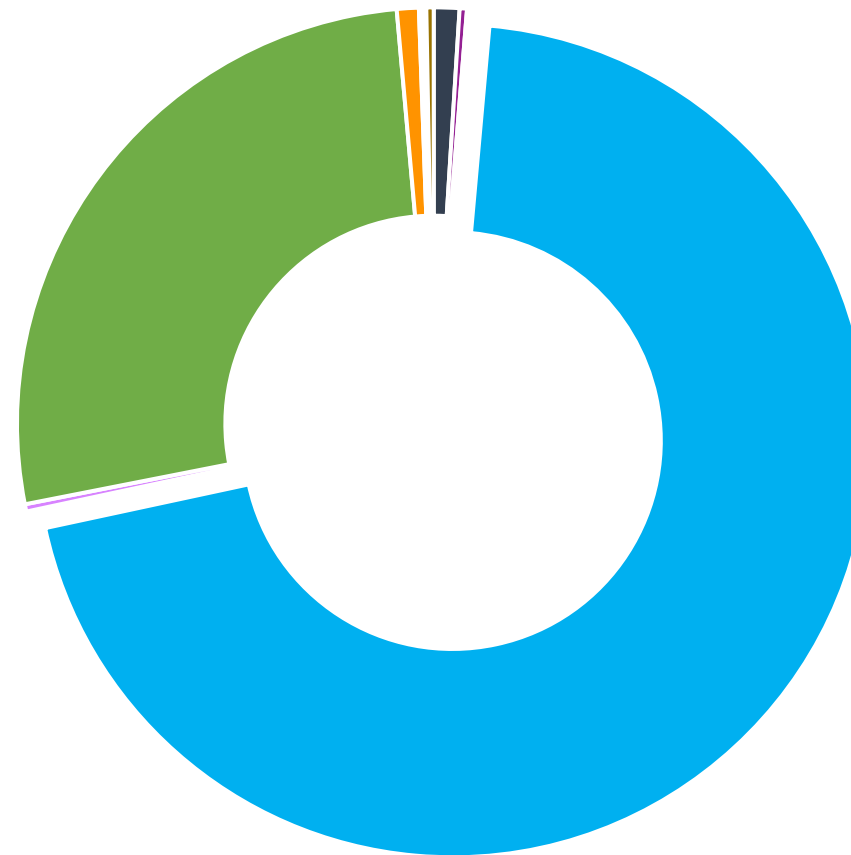
Self-Reported

- African, Eastern Indian
- Afro-American, Sudanese
- American Indian, White
- Arabic
- Arabic, White, Native American
- Asian, Cherokee, Black
- Asian, Pacific Islander, White
- Biracial
- Biracial, African American
- Black, American Indian
- Black, Ethiopian
- Black, Hispanic or Latino
- Black, White, Other
- Black, White, Native American
- Cherokee, Swedish
- European, Hawaiian
- German, Irish, Indian
- Italian, Irish, Sloviki, German
- Jamaican, Chinese, Black, White, Cherokee
- Mexican, Black
- Native American, White, Nigerian
- White, American Indian
- White, American Indian
- White, Black
- White, Cherokee
- White, Hispanic
- White, Hispanic, Irish
- White, Black, Puerto Rican
- White, Cajun, Indian, Black

Sexual Orientation & Gender Identity (SOGI)

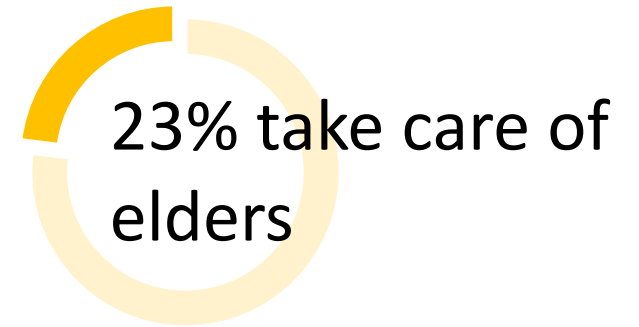
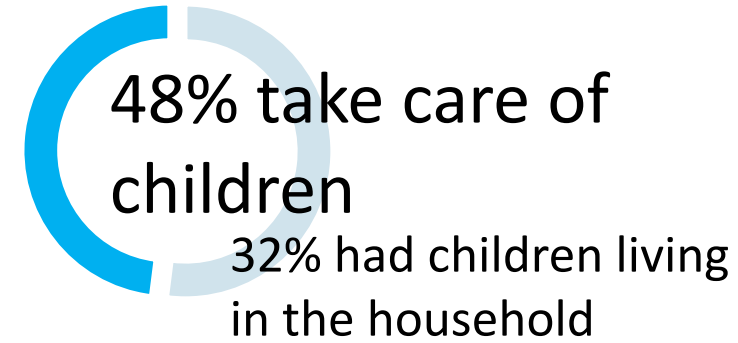
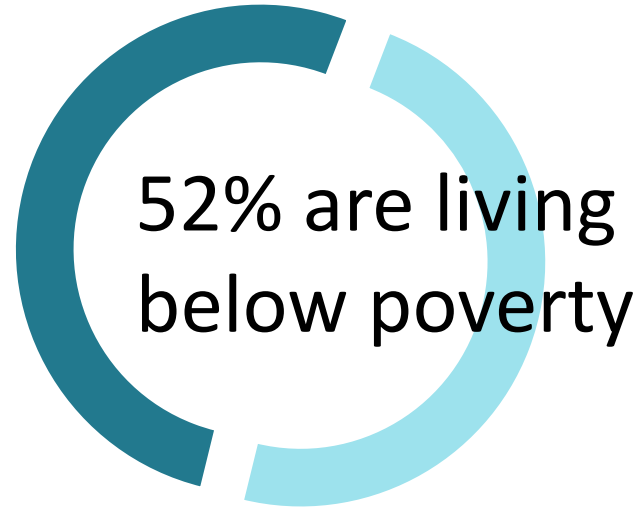


■ Heterosexual ■ Bisexual ■ Gay ■ Lesbian
■ Queer ■ Asexual ■ Self-Describe ■ Refused



■ Agender ■ Bigender ■ Butch ■ Female
■ Genderfluid ■ Male ■ Non-Binary ■ Not Sure

Other Survey Demographics



-
- 11% report working in the food sector
 - 39% are employed full-time
 - 36% reported no formal education beyond high school; 27% had high school degree or GED
 - 15% of households reported an active member or veteran of the armed forces
 - 52% are estimated to be living at or below the poverty line
 - 84% reported being heterosexual
 - 14% are estimated to be members of the LGBTQIA2S+ community
 - 66% reported being female
 - 19% reported being over the age of 65
 - 14% reported being 26 years old or younger
 - 93% spoke only English
 - 12 years was the average time people lived in their current home (if live in a home)

Food Insecurity

In your own words...

748 people
*provided their
own definitions*



Food Insecurity In your own words...

What does food insecurity mean to you?

"Afraid they won't have enough to eat."
"Being afraid it won't be enough."
"Being hungry."
"Being unsure about how to feed yourself on a regular basis or to money to buy food."
"Being unsure where your next meal is coming from."
"Being without."
"Being without foods that you prefer to eat."
"Being able to afford it."
"Being unsure when your next meal is coming."
"An empty refrigerator."
"Anxiety around food."
"Can't afford good food."
"Cannot get what I need to provide for my family."
"Difficult to access basic food because of transportation."
"Difficulty in trying to afford healthy food."
"Do not have enough food and hard time getting it."
"Don't have a way to get to the grocery story."
"Don't have a place to grow food."
"Don't have access to food to quality foods or the means to obtain food."
"Don't know where I'm going to eat next."
"Fear of no food."
"Food deserts in a one-mile radius in one community."
"Not a consistent amount of healthy food for everyone in a household."
"Going hungry sometimes."
"Going without and worry day to day how you're going to eat."
"Being hungry is a safety issue. Food is a basic human necessity."
"Having little to no access to food."
"Having to go without and when you do eat you overeat and that makes you unsure."
"Having to make a choice between food and bills."

"Having to skip meals because of financial reasons."
"Heartache. Struggle to make it."
"Heartbreak. People who are hungry."
"Hunger. Not being able to get the sustenance you need."
"Hungry. I grew up like that. We only ate beans and cornbread sometimes. If it weren't for school, I wouldn't know what salads are."
"I grew up poor and I'd let my brother eat instead of myself. I have to not buy food so I can buy [...] other necessities."
"I was homeless for awhile, so I had to go to pantries. Not being able to support myself without aid or help."
"I am not always able to get the food my doctor wants me to eat."
"If you don't have food then you get weak [...] or you get fatigued."
"Having health problems because you don't have enough food."
"Inability to find food that meets my family's dietary needs."
"In need of nutrition."
"Inaccessibility of food."
"It means it is not enough; or close to not enough; a safe supply of food."
"It means kids are going hungry and not getting adequate nutrition and parents are going hungry."
"Costs too much."
"It means that the people I care about can't get the food they need to have a healthy lifestyle."
"Struggle getting food."
"It stresses me out."
"It's a struggle now that they've raised the prices and sometimes, I run out of food stamps."
"It's hard sometimes to try to get food and sometimes you have to make sacrifices to get food."
"Just not being able to eat."
"Lack of access to food."
"Lack of ability to obtain food for various reasons like finances."
"Lack of access to resources."
"Lack of availability of food."
"Lack of food; hunger."

"Lack of fresh food. No store that has fresh produce."
"Lack of money and not being able to get what we need."
"Lack of resources to food; not eating healthy or knowing how to prep foods."
"Lack of stores."
"Lack of work or jobs. Access to money."
"Limited availability of food you like, or you don't have it completely accessible."
"Little or nothing."
"Living in a food desert."
"Living paycheck to paycheck and can't afford groceries."
"Living with hunger and finding it difficult to get food..."
"Means being worried about where the food comes from and how you are going to pay for it."
"Means I have to make sure I have enough to survive off of."
"Means no access to healthy food or enough food."
"Means not being able to get a reasonable amount of nutrients and sometimes go hungry."
"Most food banks hardly have Produce and that's hard for a vegan like my daughter."
"My children might go hungry."
"Need food but not able to get it."
"Never been not [food] insecure."
"No food."
"No access."
"No dry foods. No way of cooking and lack of resources."
"No knowledge of healthy foods or how to prepare."
"Not able to meet basic requirements for food."
"Not being able to afford food; things just keep going up."
"Not being able to eat 3 meals a day."
"Not being able to feed my child."
"Not being able to find food. There's a lot of places you can get food. But not everyone has transportation to get there."

"You have to settle with what you can afford instead of what you want."
"not being able to store, conserve or plan meals."
"Not be stable with the food situation at home."
"Not being able to share food with others and not being able to afford groceries."
"Not enough food to satisfy hunger."
"Not enough money. Loss of weight from lack of food."
"Not feeling confident in your ability to provide food."
"Not getting enough nutrients, protein, or vitamins you need to keep healthy."
"Too much starch. Not enough protein."
"Not having a steady diet."
"Not having basic needs."
"Not having enough food for my kids' healthy meals or consistent meals."
"Not having enough funds to afford a healthy foods choice."
"Not having enough money to put food on the table."
"Not having enough food; how often you get it; not knowing if food will last from one month to the next."
"Not having quality fresh food."
"Not knowing where the next meal will come from; rationing food."
"You can't get the right food and nutrients. It can be an emotional thing too. Like feeling lonely, desperation, hopelessness, anger. There's a lot of hungry people."
"You can't count on getting your next meal."
"You are weary of the foods you eat [...] because afraid of what the foods do to you."
"Worry. You have to pick and choose between bills, food and medicine."
"Worry about where your next meal is coming from. Being concerned about an empty fridge."
"Physical hardship leading to poor health."
"When you don't have enough food that is nourishing and healthy."
"Unsure where you will get your next meal."
"Tragic."
"The scarcity of food in the area."
"The security isn't there if you don't have food."

"The happiness to be able to eat 3 meals a day."
"The lack of readily accessible food whether you're in your home or not."
"The main thing is the ability to afford food following by the ability to afford healthy food. This is in the projects and it's a food desert."
"The fear there is nothing in the cupboard and nothing I can do to fix that."
"The cupboard is bare, and the bank account is empty."
"That people are starving."
"That we have to do better because it's very traumatizing for folks; it is bad enough we don't eat what we want."
"Terrifying."
"Suffering from not getting enough food."
"Survival."
"Struggling to provide food for my family."
"Stressful lifestyle."
"Starvation. You have to have food to eat."
"Physical and mental health."
"Person does not have guaranteed resources to maintain food."
"...It's hard to find food to eat with my health and dietary restrictions."
"People being ashamed of what they eat."

What does food insecurity mean to you?

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"Being afraid it won't be enough."
"Being hungry."
"Being unsure about how to feed yourself on a regular basis or to money to buy food."

"Being unsure where your next meal is coming from."
"Being without."
"Being without food."

"Being able to afford it."
"Being unsure about how to feed yourself on a regular basis or to money to buy food."

"An empty refrigerator."
"Anxiety about food."
"Can't afford to eat."

"Cannot afford what I need to provide for my family."
"Difficult to access basic food because of transportation."
"Difficulty in getting food."

"Do not have enough food but sometimes getting it."
"Don't have a way to get to the grocery story."

"Don't have access to food to quality foods or the means to obtain food."
"Don't know where I'm going to eat next."

"Fear of no food."
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"Not a consistent amount of healthy food for everyone in a household."
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"If you don't have food then you get weak. I am or you get fatigued."

"Inability to find food that meets my dietary needs."
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"The fear there is nothing in the cupboard and nothing I can do to fix that."

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Food
Insecurity
In your own
words...

Food Security: USDA Food Status for Knox County Sample

U.S. Household Food Security Survey Module:
Six-Item Short Form Economic Research Service,
USDA, September 2012

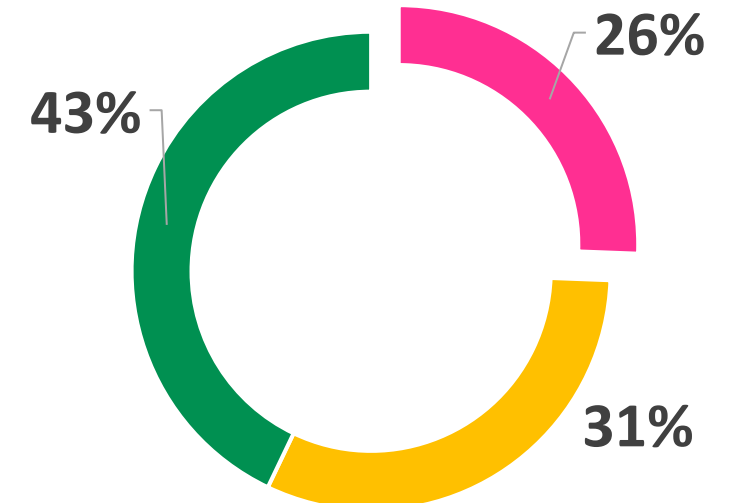
- In the past 30 days, the food I bought just didn't last, and I didn't have money to get more.
- In the past 30 days, my household couldn't afford to eat balanced meals.
- In the last 30 days, did you or other adults in your household ever cut the size of your meals or skip meals because there wasn't enough money for food?
 - How often did this happen?
- In the last 30 days, did you ever eat less than you felt you should because there wasn't enough money for food?
- In the last 30 days, were you ever hungry but didn't eat because there wasn't enough money for food?

Food Security Status

- Raw Score 0 - 1 = High or marginal food security
- Raw Score 2 - 4 = Low food security
- Raw Score 5 - 6 = Very low food security

USDA Screening Questions

- Very Low Food Security
- Low Food Security
- High Food Security



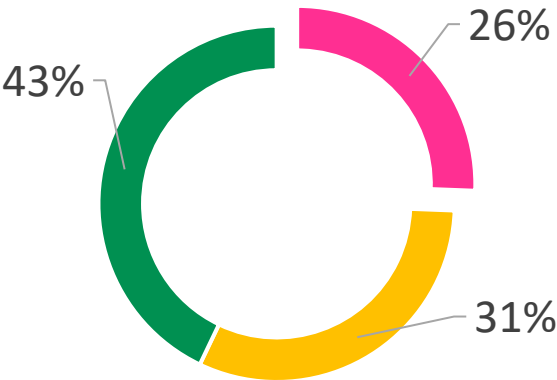
Based on your own definition, do you consider yourself/your household to be food insecure?



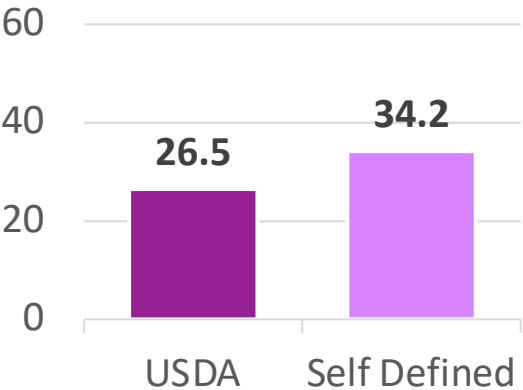
'Food insecurity' can be defined as a lack of consistent access to enough food for an active, healthy life.'

USDA Screening Questions

- Very Low Food Security
- Low Food Security
- High Food Security

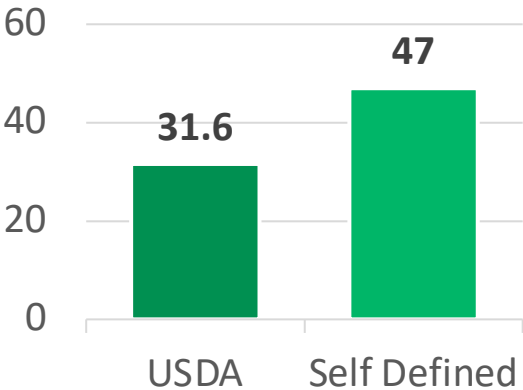


Very Low Food Security

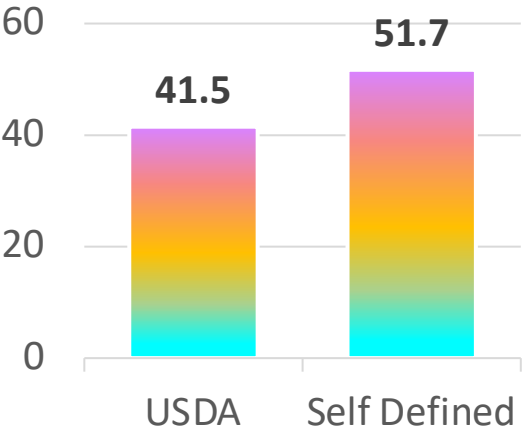


Black or African American

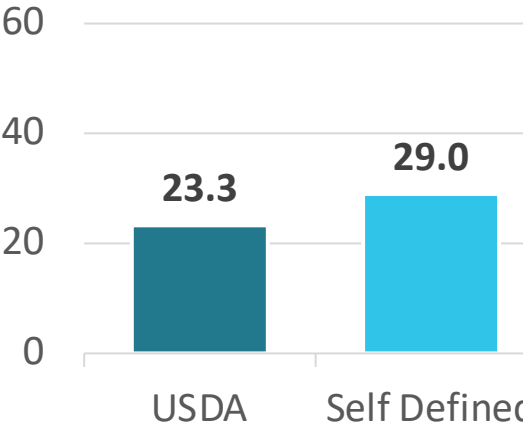
Very Low Food Security



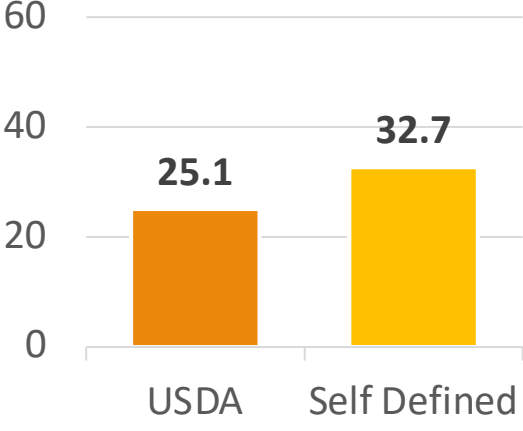
Multi-Racial or Multi-Ethnic



LGBTQIA2s+

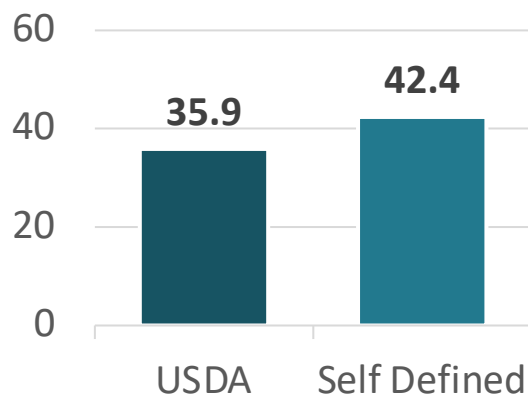


White

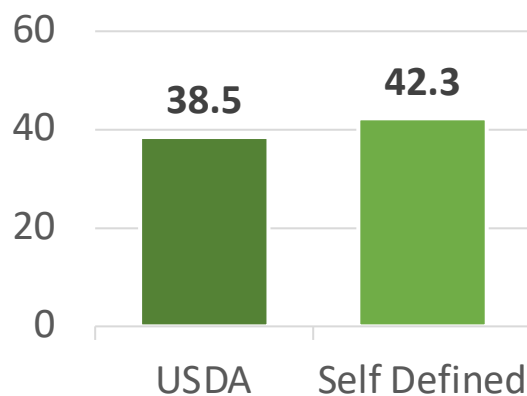


Hispanic or Latin Origin

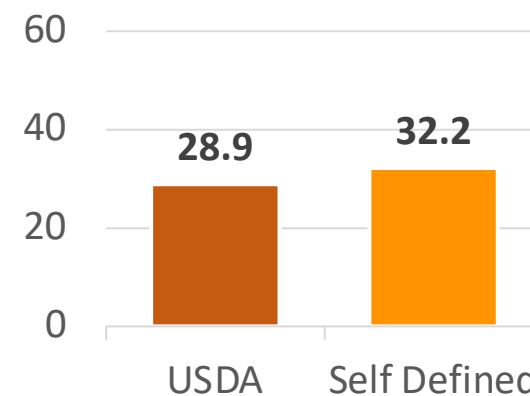
Very Low Food Security



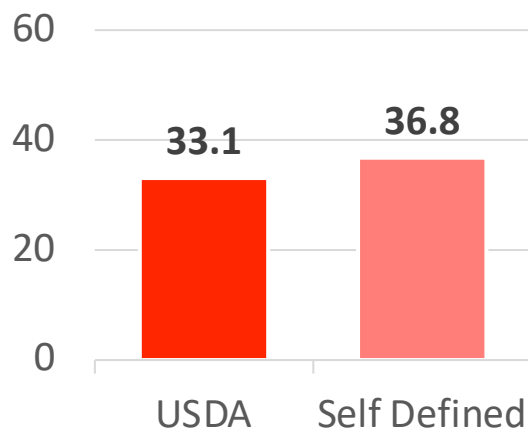
Very Low Food Security



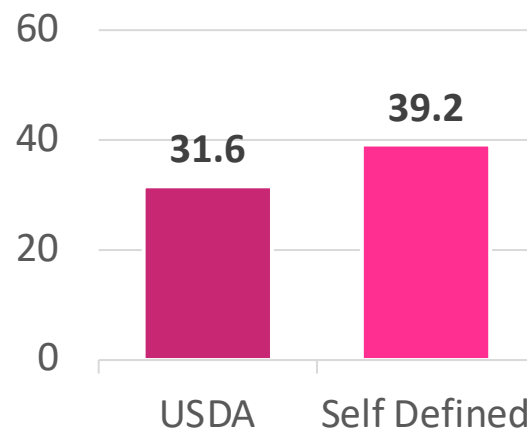
Very Low Food Security



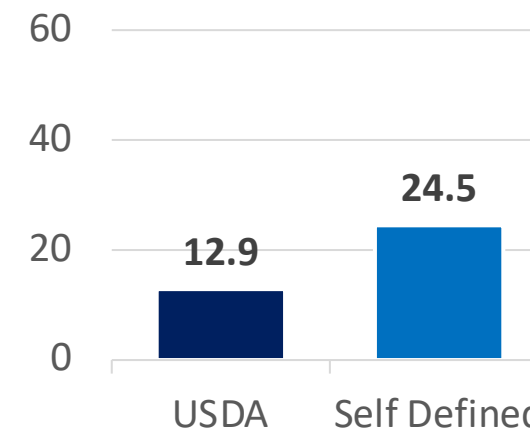
Living below Poverty



Single-Parent or Caregiver of Children



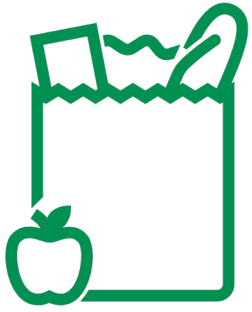
Children Living in Home



Renter

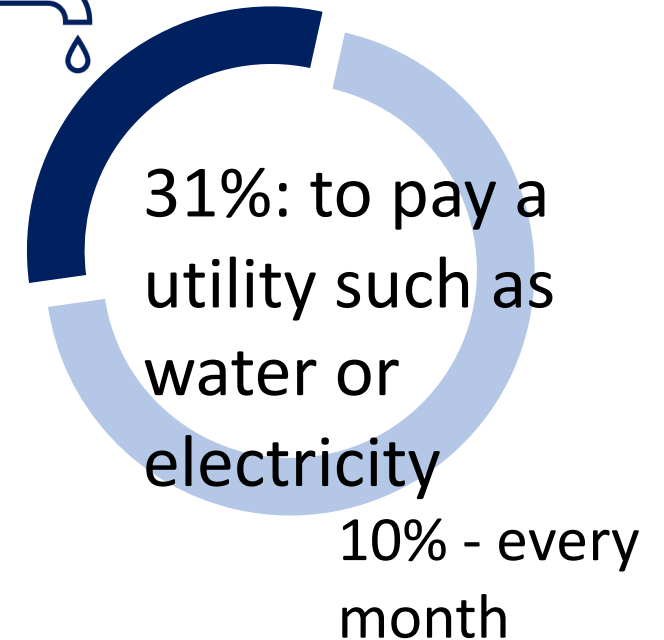
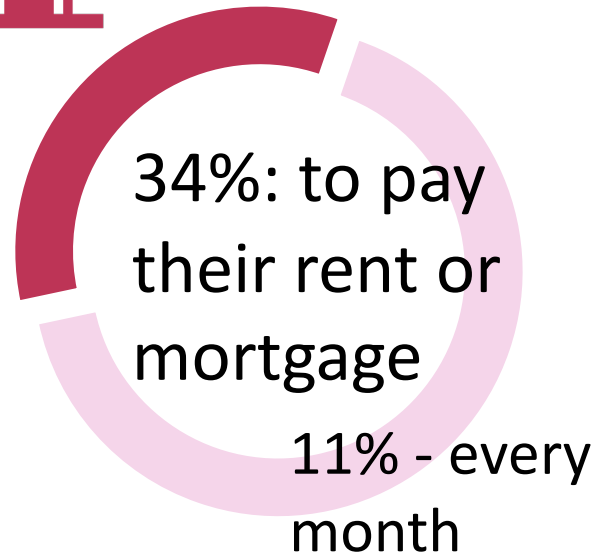
26 and Under

Over 65 years old



Choosing Between Basic Life Essentials

Household has not bought food or bought lower quality food in order ...



* In the last 12 months



Financial Stress

How would you describe your household's financial situation?

15%

Report not even having enough to meet basic expenses

26%

Have just enough to meet basic expenses

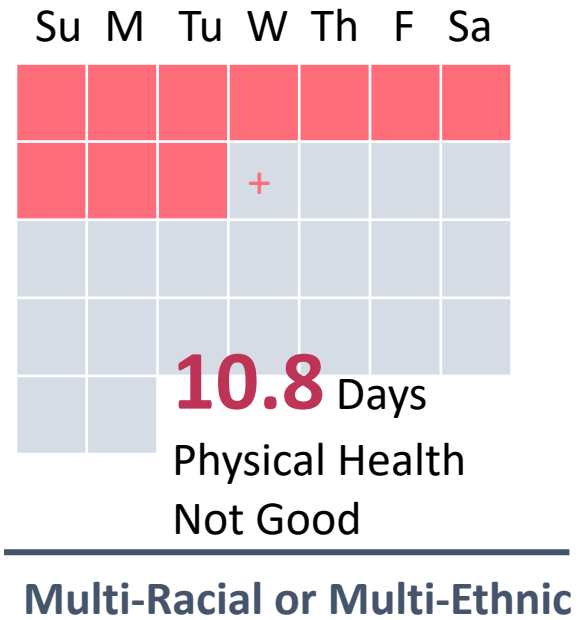
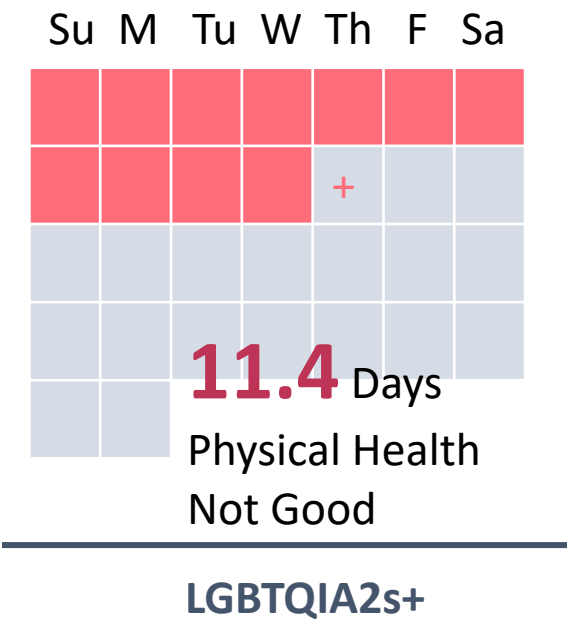
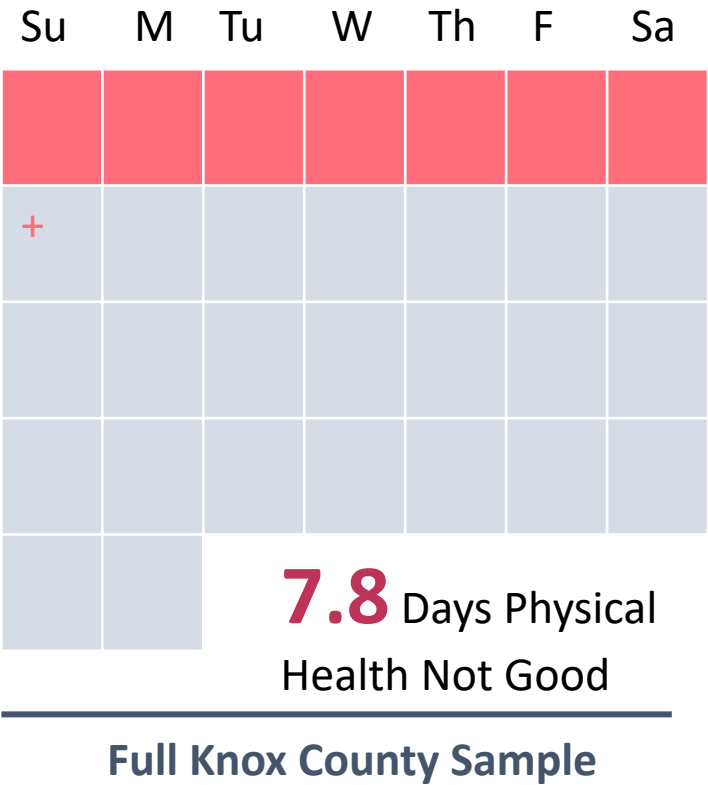
Difficulty Meeting Needs



■ Very Difficult ■ Difficult ■ Neither Difficult or Not Difficult ■ Easy ■ Very Easy

Well-Being

Thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good?*



26%

Report someone in the home being diagnosed with diabetes.

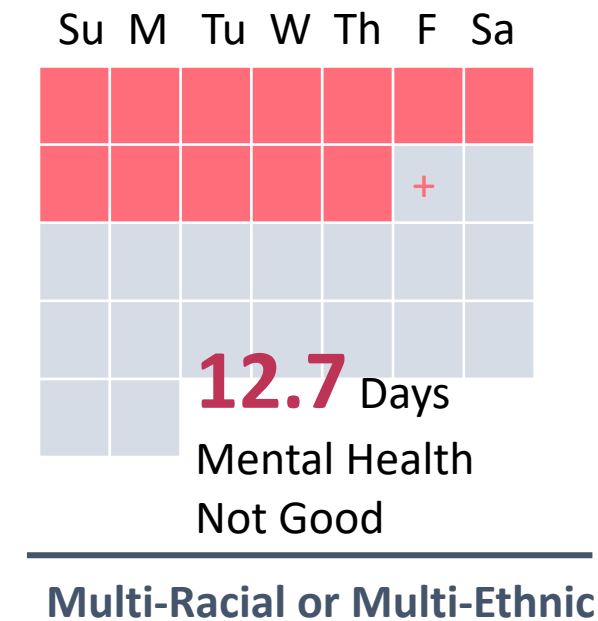
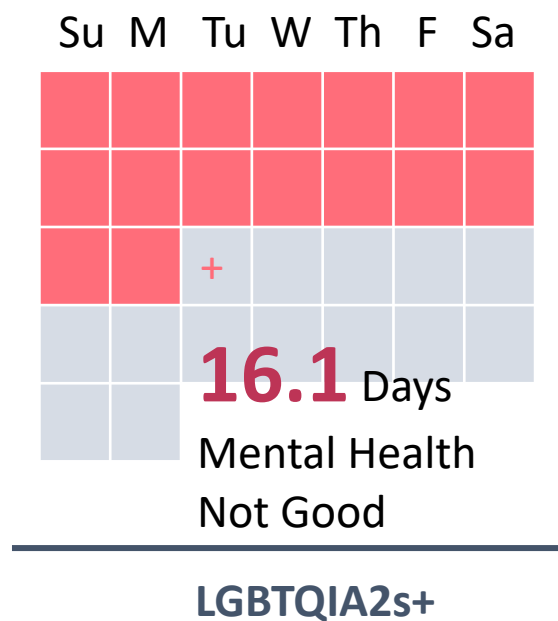
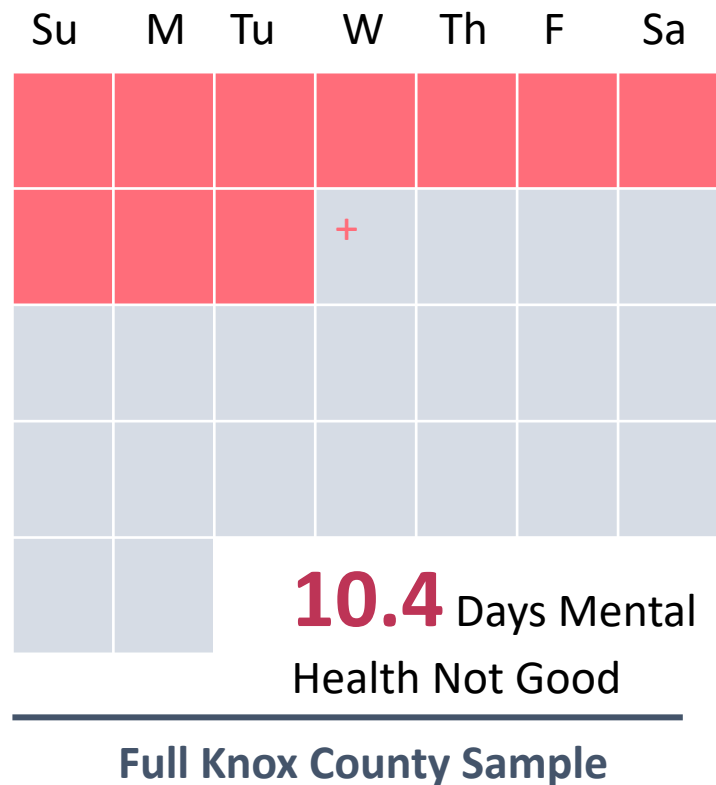
17%

Report someone in the home being diagnosed with heart disease.

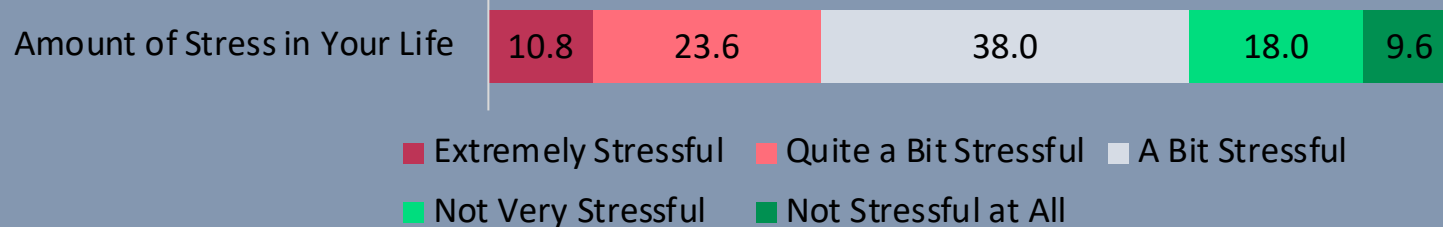
* In the last 30 days

Well-Being

Thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?



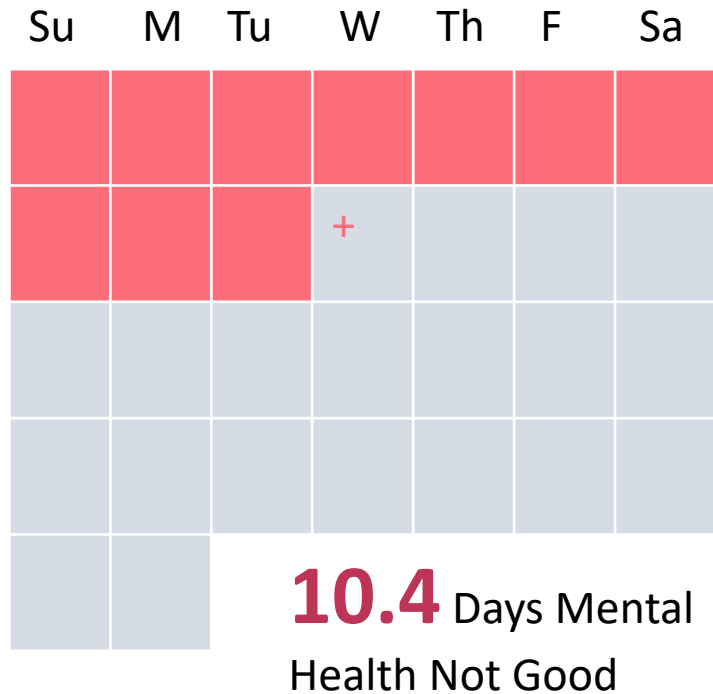
Thinking about the amount of stress in your life, how would you describe most of your days?



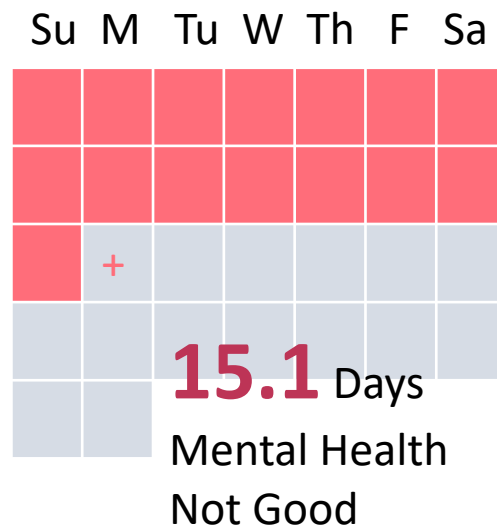
* In the last 30 days

Well-Being

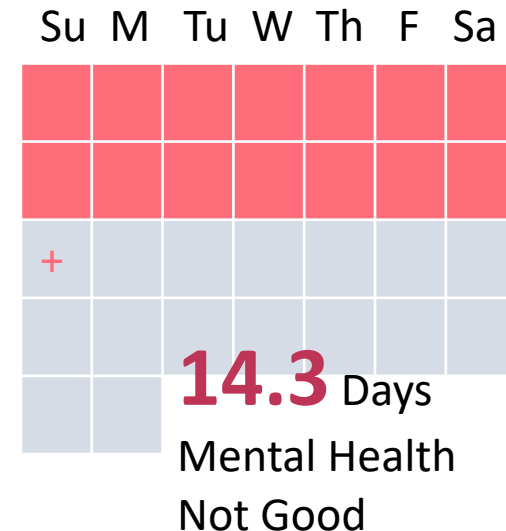
Thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?



Full Knox County Sample



Food Insecure – Self-Defined



Food Insecure – USDA Very Low Food Security

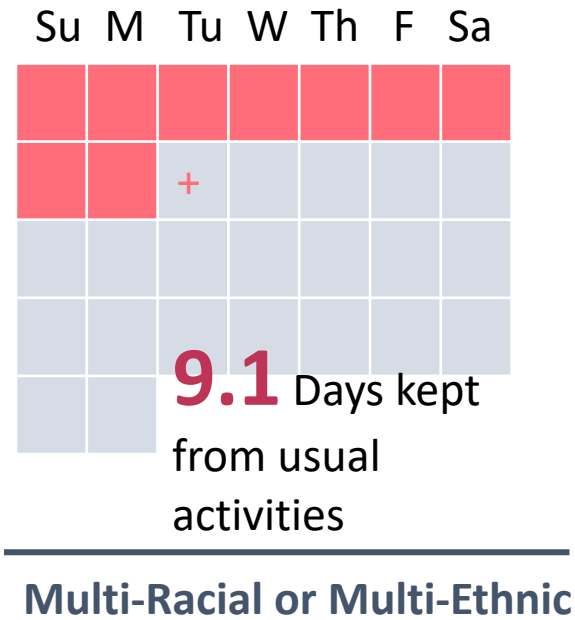
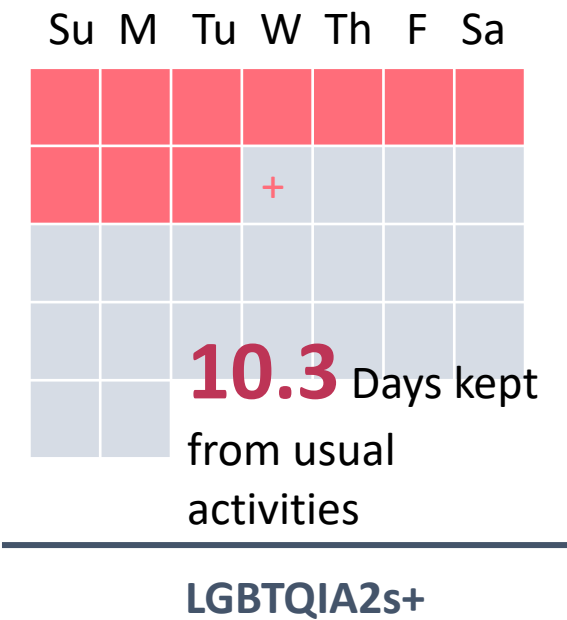
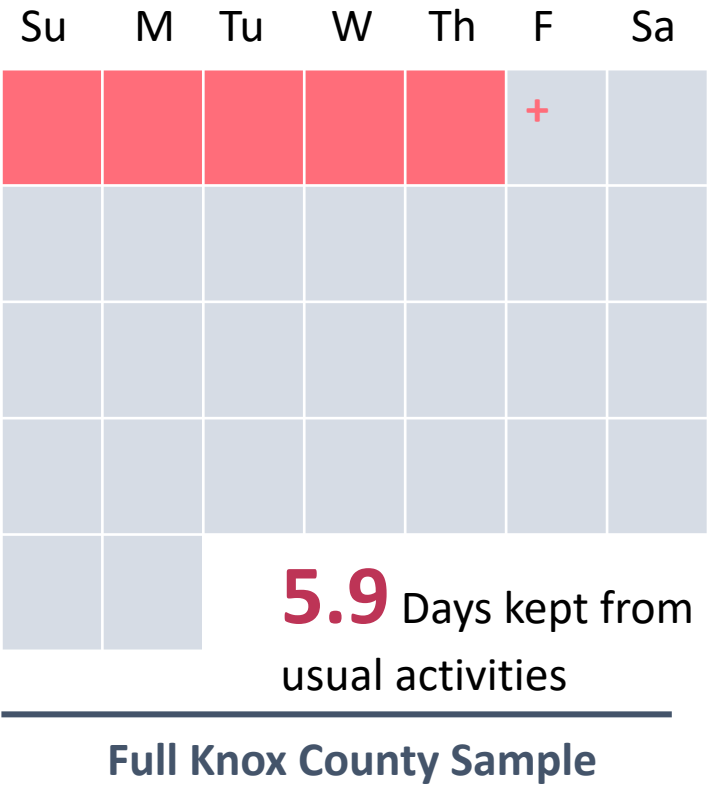
16%

Reported there was a time in the last 12 months they did not get enough rest or sleep because they were too hungry.

* In the last 30 days

Well-Being

During the past 30 days for about how many days did poor physical or mental health keep you from doing your usual activities such as self care, work or recreation?



* In the last 30 days

Trauma and Discrimination

17%

Of people reported not accessing food in the community because of shame

34%

LGBTQIA+

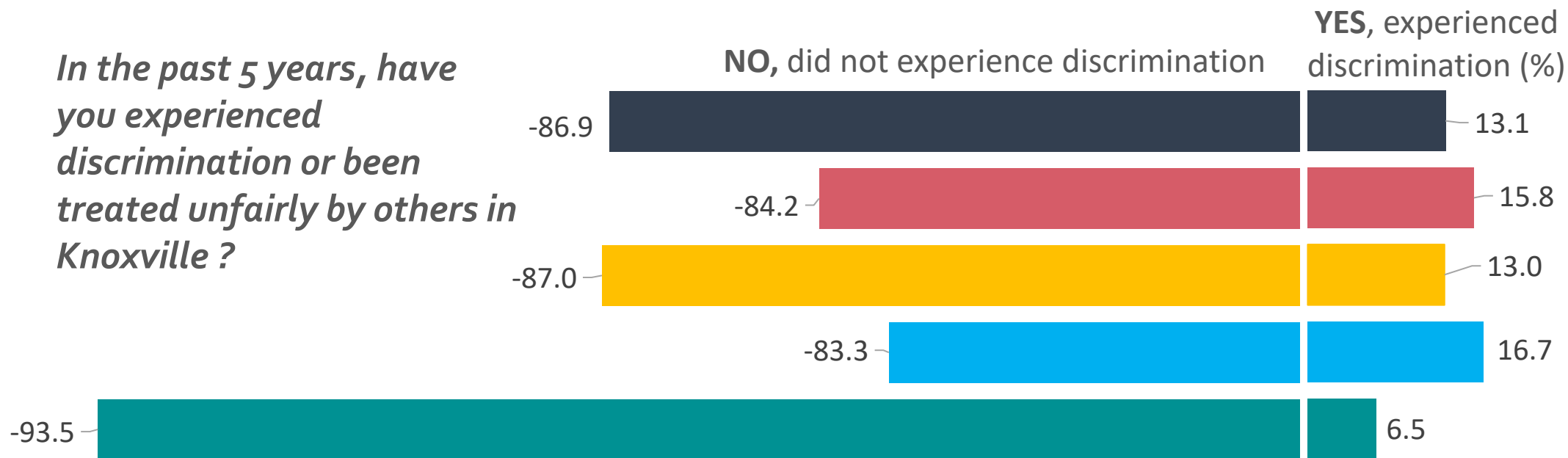
24%

Under 26 years old

23%

Very Low Food Insecure

In the past 5 years, have you experienced discrimination or been treated unfairly by others in Knoxville ?





Growing Food and Land Use

47%

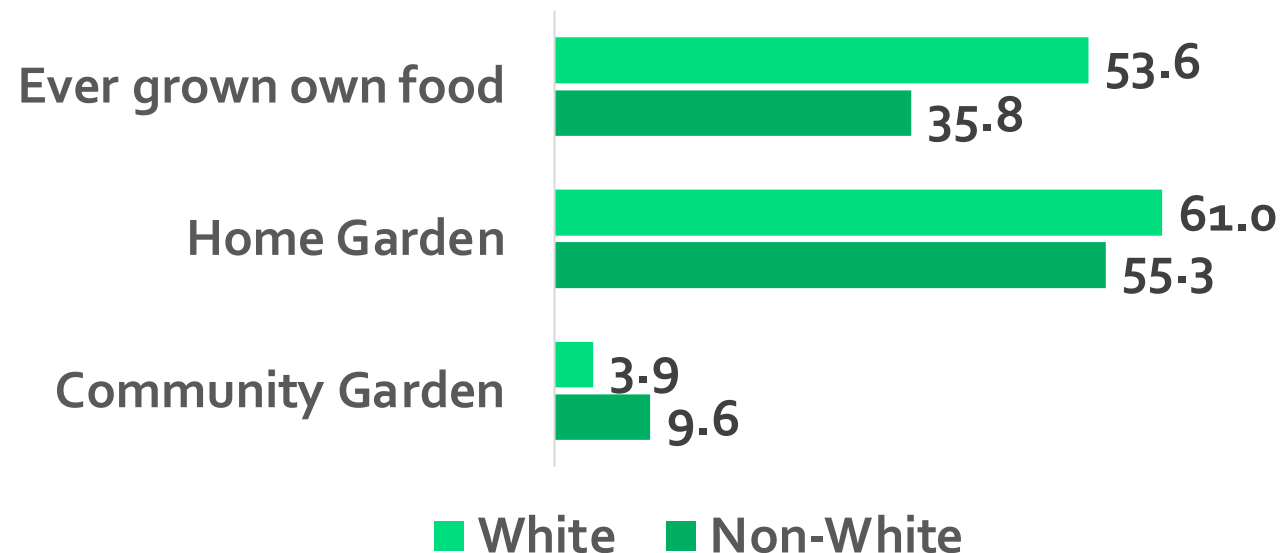
Have grown their own food while living in
Knoxville

54%

Of people that have never
grown own food would like to

97%

Believe it is either very important
or important for our community
to conserve or protect local land
for farmland or community
gardens.



16%

Currently
Compost
~ 5% have in
the past



Cooking Food

87%

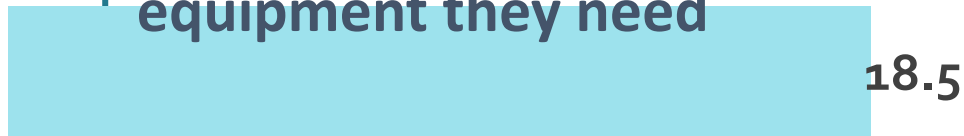
Reported they feel they have all the cooking equipment they need to prepare the foods they like.

19%

Had to throw away food because fridge was broken, power was off, or did not have a way to keep it cold

Feel they do not have the cooking equipment they need

Non-White
Respondents



18.5

White
Respondents



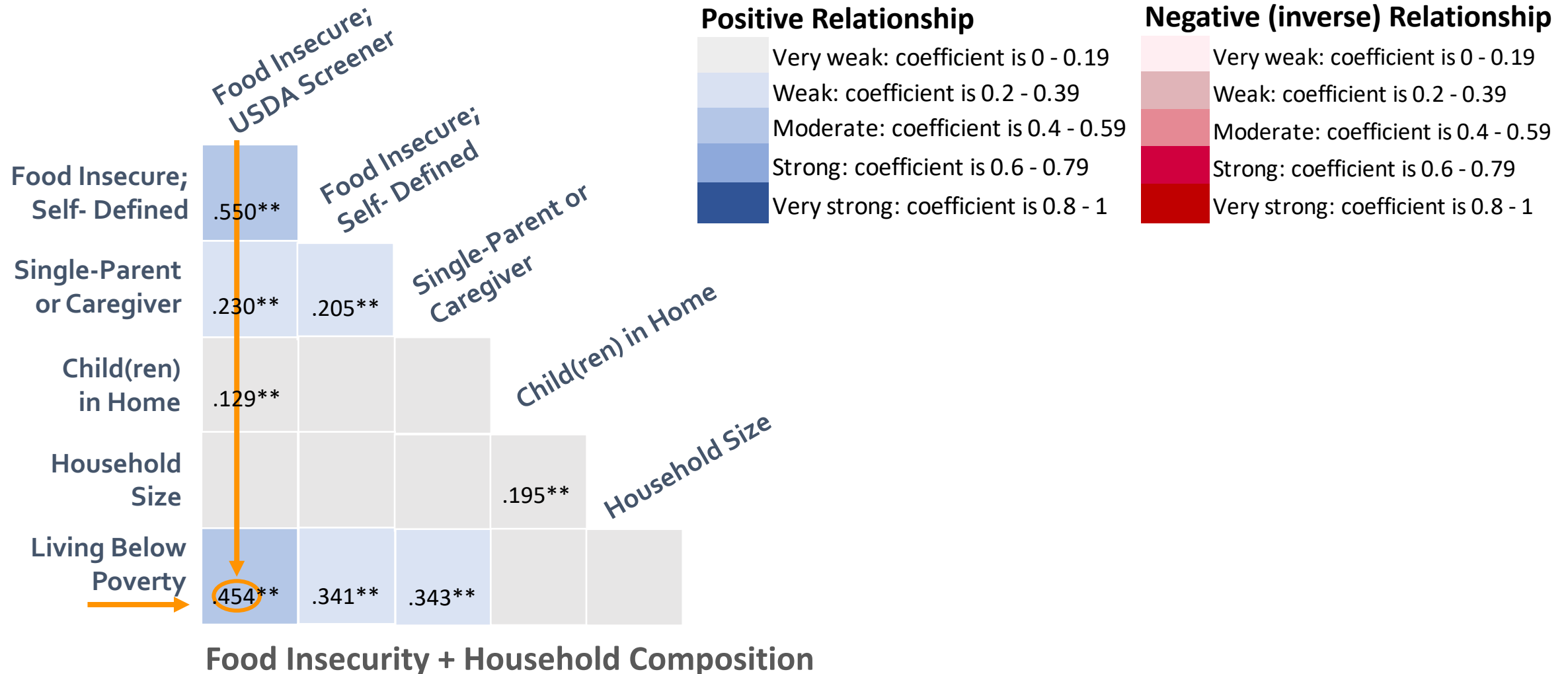
9.5

20%

Rate the quality of their water coming out of their faucets as poor or very poor.

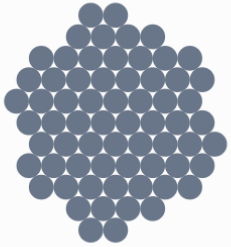


Correlations : Relationships

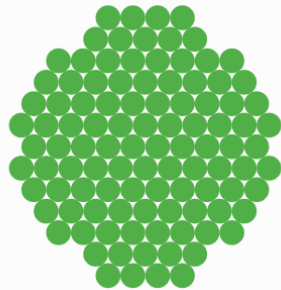


How long would it take if you walked from your home to the store where you buy most of your food?

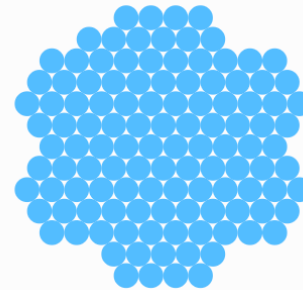
10 minutes or less



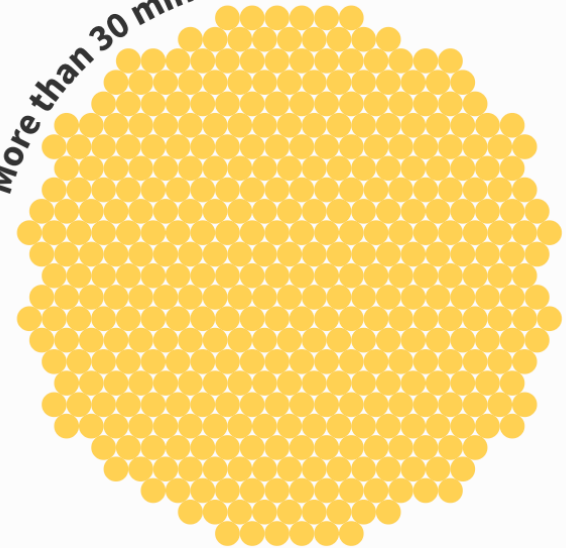
11 to 20 minutes



21 to 30 minutes

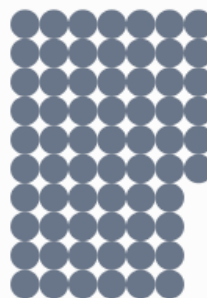


More than 30 minutes

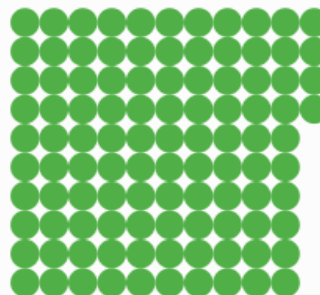


How long would
it take if you
walked from
your home to
the **store**
where you buy
most of your
food?

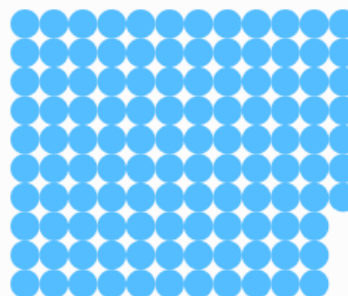
10 minutes
or less



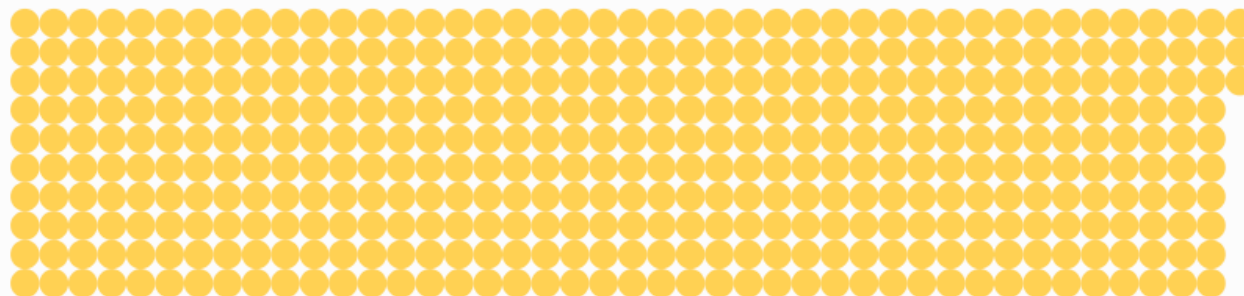
11 to 20
minutes



21 to 30
minutes

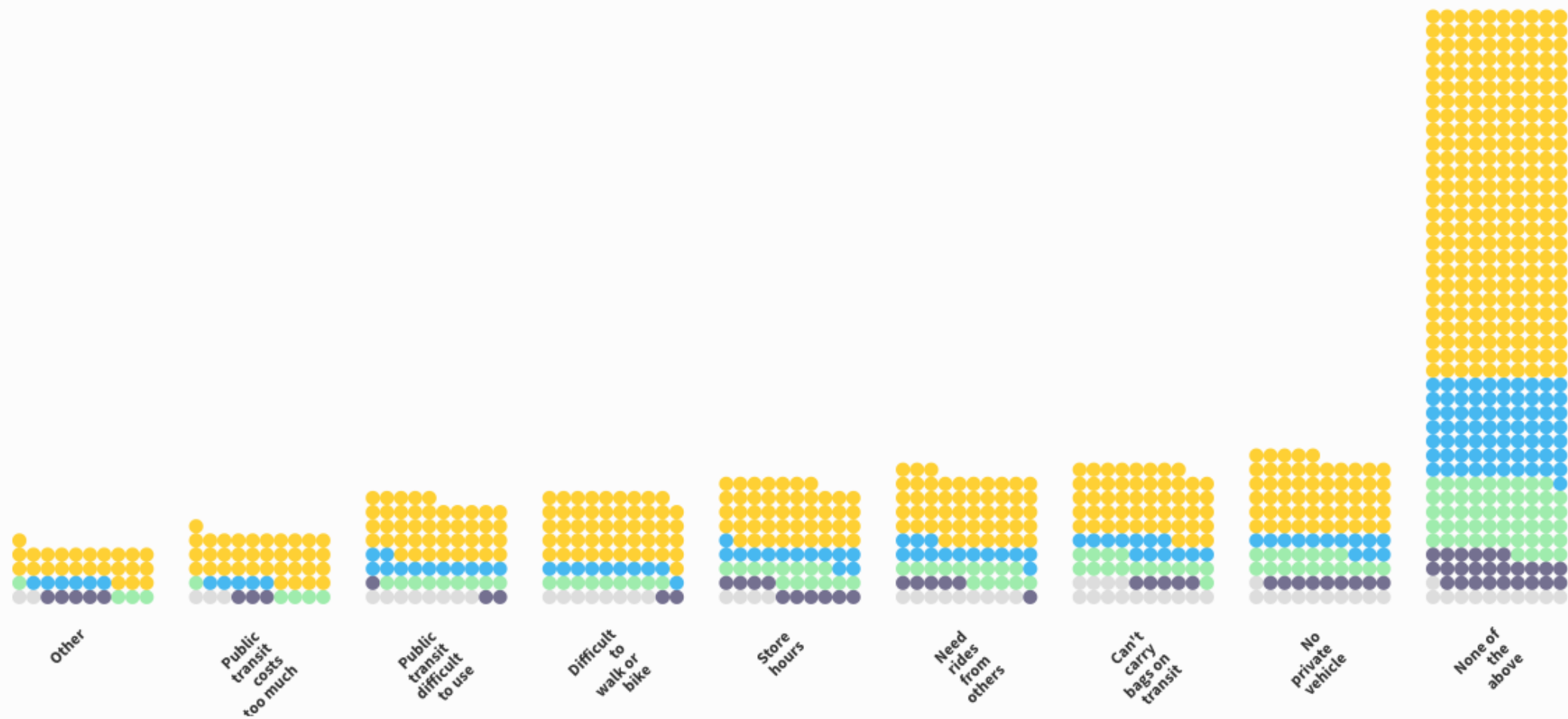


More than
30 minutes



What makes it difficult to get to the food you need?

How long would it take to walk from your home to the grocery store? 10 minutes or less 11 to 20 minutes 21 to 30 minutes More than 30 minutes NA

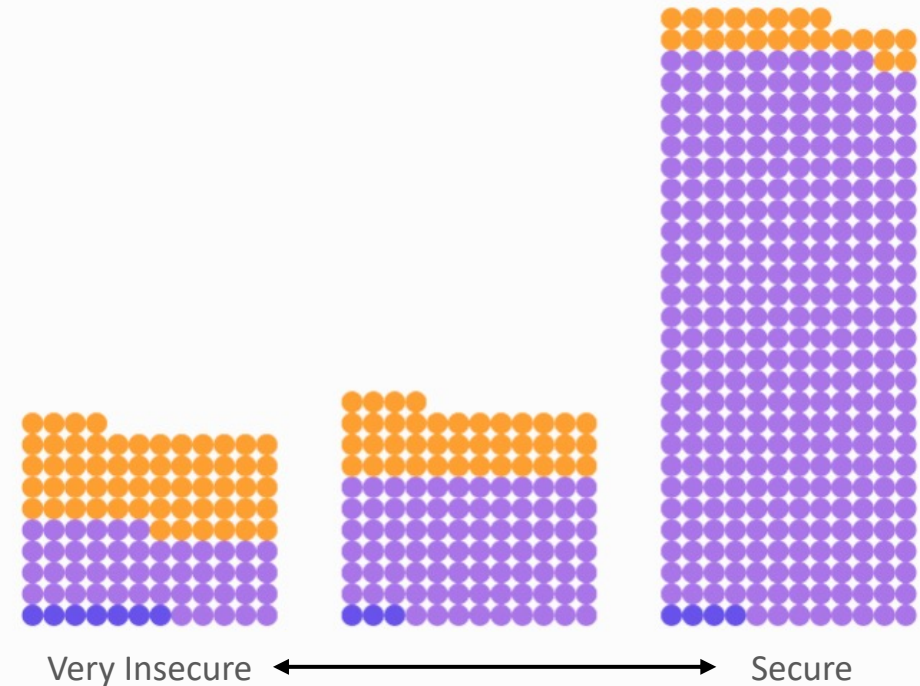


Defining Food Security: USDA vs. Personal Assessment

Do you consider yourself food insecure? ■ NA ■ No ■ Yes

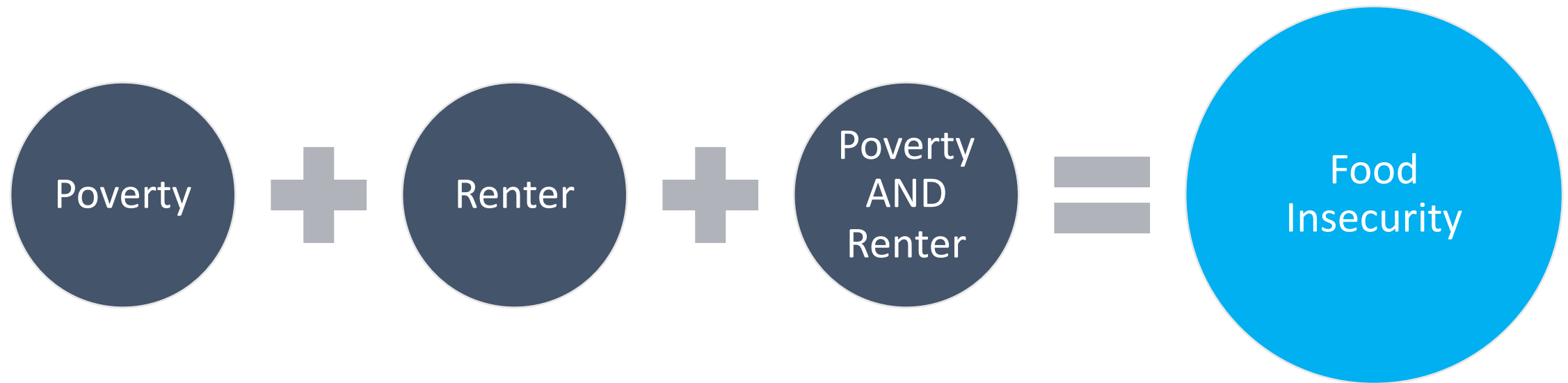


USDA 6-Question Classification

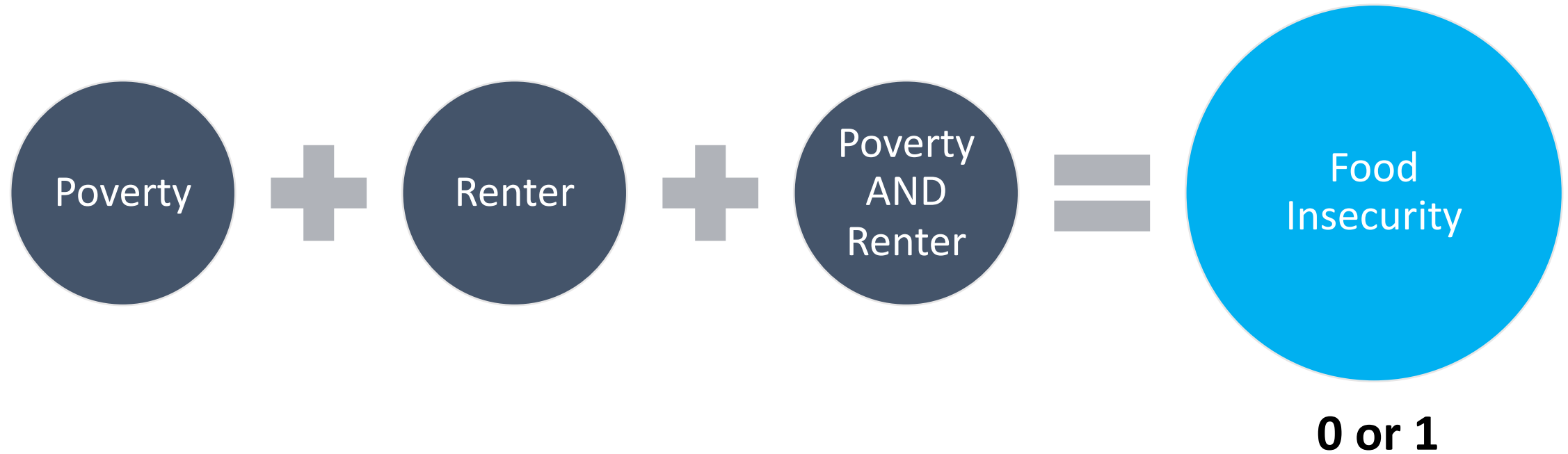


USDA 5-Question Classification

Example Equation for Predicting Food Insecurity

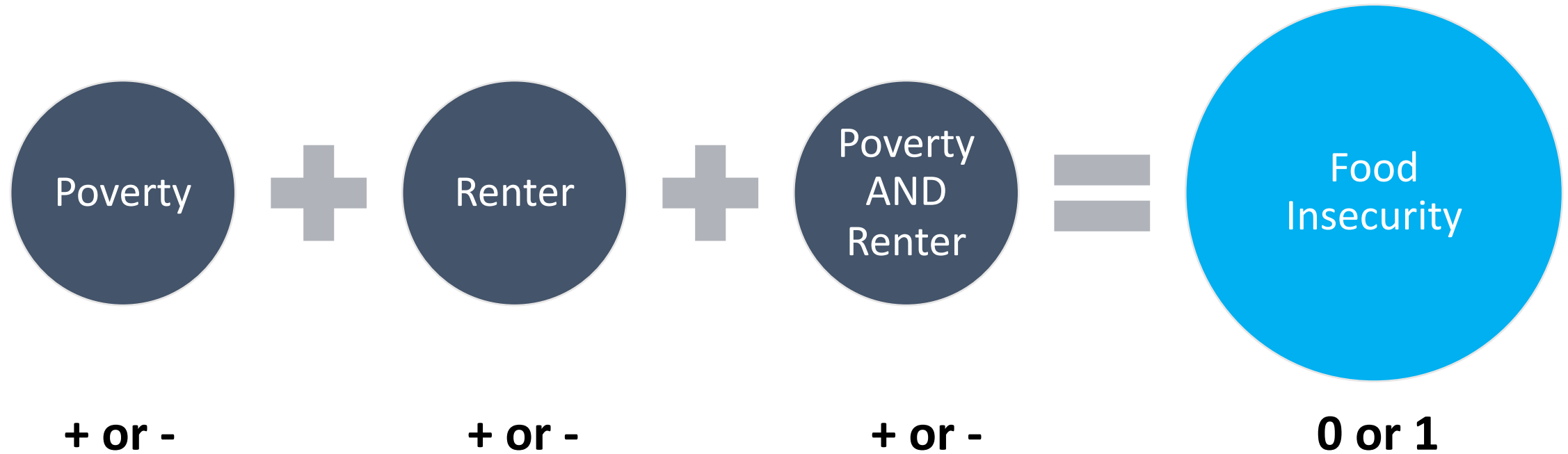


Example Equation for Predicting Food Insecurity



*The model is trying to guess whether each person is food insecure (**1**) or not (**0**) based on the predictors (e.g. poverty, renter vs. homeowner)*

Example Equation for Predicting Food Insecurity



+ *increases likelihood of food insecurity*

- *decreases likelihood of food insecurity*

“

*A p-value measures the likelihood
that a result found in the data
is due to pure chance*

”

Statistical significance

p-value less than .05

*(i.e. less than 5% likelihood
result is due to chance or error)*

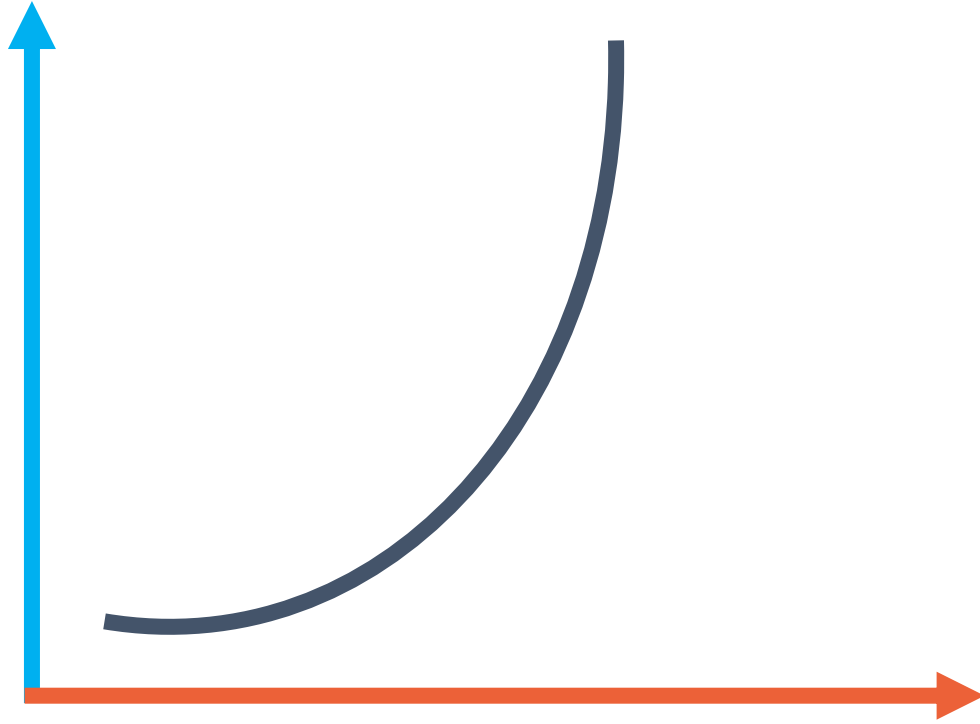
Single Predictor Models

	Coefficient	p-value	% Correct Predictions
Renter/Other Situation	1.3**/1.3**	<.001/.002	66%
LGBTQIA+	0.6*	.029	56%
Hispanic or Latino	0.6	.067	56%
Single Parent or Caregiver	0.8**	.006	64%
Black	0.3	.149	57%
White	- 0.7**	<.001	57%
Poverty	2.0**	<.001	73%
Walking Time to Grocery Store	0.2*	.024	57%
No Private Vehicle	1.4**	<.001	57%

* *p-value of .05 or less* ** *p-value of .001 or less*

When we add all individually significant variables to a model, three remain statistically significant:





And because logistic regressions are based on an exponential relationship between predictors and the (odds of the) outcome...

Knox County residents living

BELOW THE POVERTY LINE

experience a

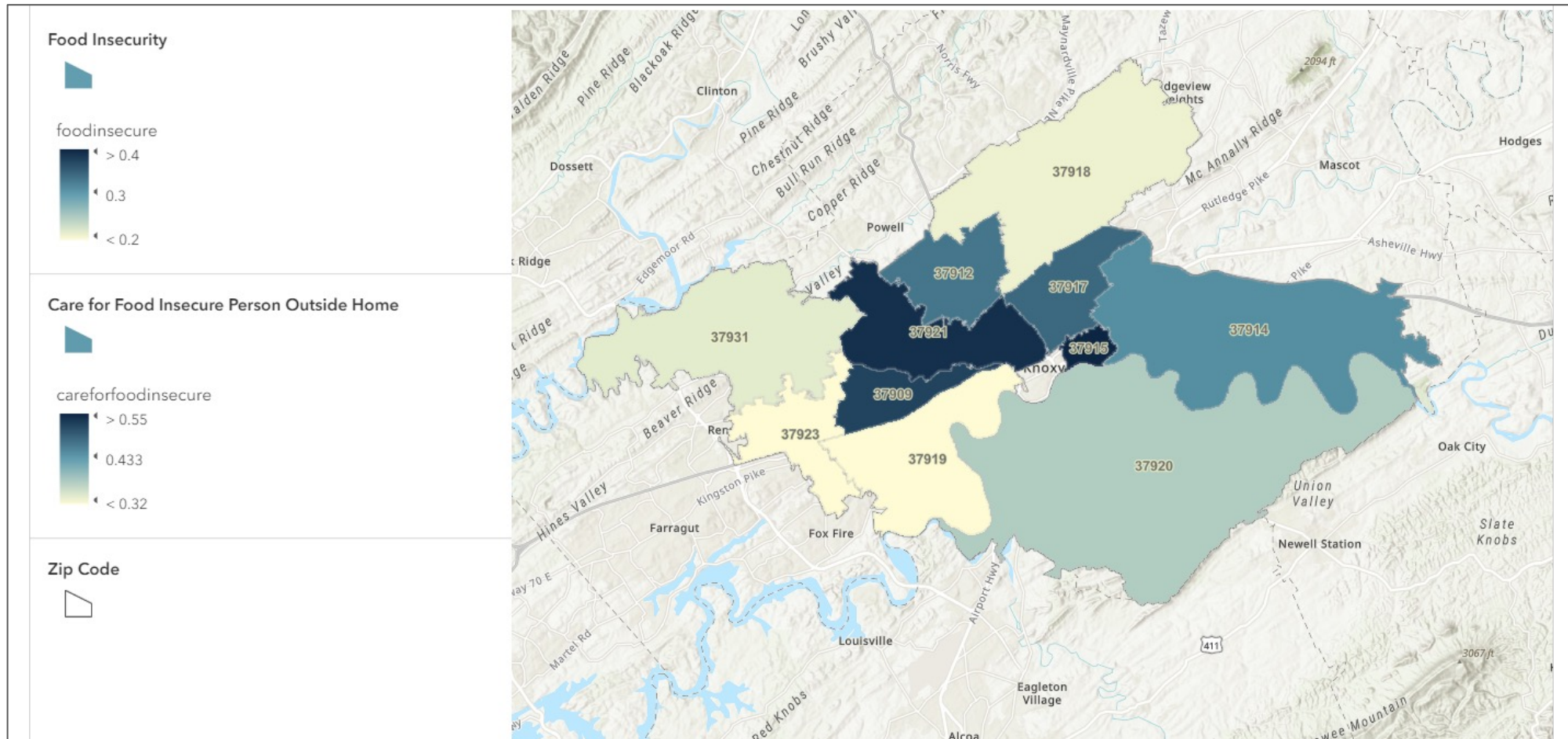


8x

**GREATER ODDS OF BEING
FOOD INSECURE**

Food Survey Atlas

Atlas (*noun*): A collection of maps



[Atlas \(arcgis.com\)](https://atlas.arcgis.com)



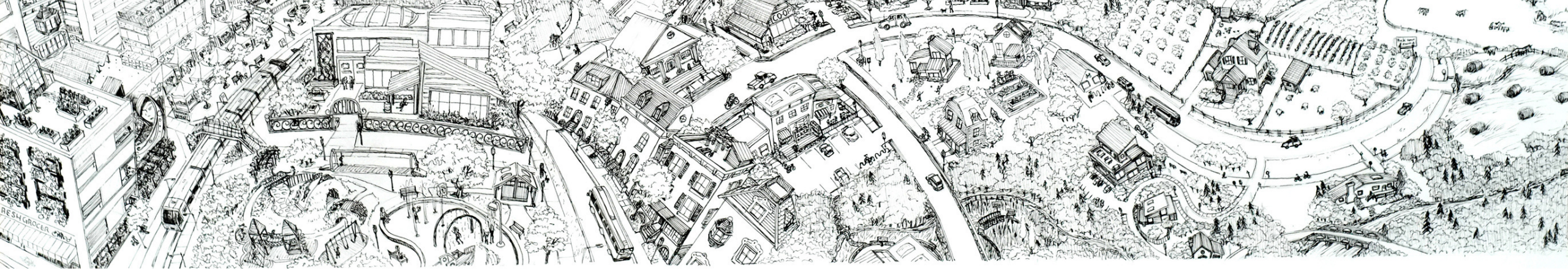
Location Data

Address and Zip Code data data that links to:

- 📍 Changes in neighborhood that allow for better access to foods you like to eat
- 📍 Places people shop
- 📍 Community Wealth
- 📍 Have you ever lived anywhere in Knoxville where you felt you had good access to the food you like to eat?
- 📍 Are there places in the community where you get help with food that you trust and treat you with dignity?

NEXT STEPS

- Continued Analysis
 - Establish Relationships
 - Construct Predicting Models
- Survey for Justice-Involved Individuals (YWCA)
- Schedule Webinar Series
- More Mapping Using Location Data
- Organize and Interpret Open-ended Responses
 - “What are some changes you would make to your neighborhood so that you have better access to foods you like to eat?”
 - “What does it mean for a community to be wealthy?”
 - “What are some things that would help make Knoxville’s food system more diverse, equitable and inclusive?”
 - “What do you think are the best ways to reduce hunger in Knoxville?”
- Make Data and Findings Public
- Build Your Own Dashboard
 - Calendly link for building a dashboard or fact sheet uniquely tailored to your work or the population you serve



Thank you!

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Three³