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## Understanding the psychological distress of food insecurity: a qualitative study of children's experiences and related coping strategies

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### Abstract

**BACKGROUND:** Food insecurity, a condition of inadequate household food availability, affects 15.7% of US households with children. Food insecurity is generally conceived to affect the quantity and quality of food consumed. However, an understudied but important aspect of the experience of food insecurity is psychological distress.

**OBJECTIVE:** To critically explore the psychological distress associated with children's food insecurity using children's own reports of their experiences.

**DESIGN:** In-depth qualitative interviews conducted with children to better understand the psychological distress associated with food insecurity

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**PARTICIPANTS/ SETTING:** 60 children (7–14 years) were recruited from the San Francisco Bay Area. Children were eligible if they spoke English fluently and their parent reported any experience of household food insecurity over the past year.

**RESULTS:** Children discussed six themes related to the psychological distress associated with food insecurity: 1) worrying about not having enough food; 2) worrying about their parents' well-being, 3) anger and frustration about not having enough food, 4) embarrassment about their family's food situation, 5) strain on the family's dynamics due to food insecurity, and 6) sadness over not having enough food. After describing their experiences, children described strategies they employed to tolerate or cope with food insecurity, including distracting from or using their imagination to cope with food insecurity, increasing tolerance of their family's food situation, and appreciating their parents for providing food and resources.

**CONCLUSIONS:** Food insecurity contributes to children's psychological distress. Given the known effects of chronic stress in childhood, the psychological distress of food insecurity may represent an important mechanism by which food insecurity adversely affects children's growth and development and deserves investigation in future studies.

### Keywords

food insecurity; psychological distress; coping; children

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## INTRODUCTION

Household food insecurity is the economic condition of uncertainty or difficulty in acquiring enough food. In 2017, 11.8% of US households were determined to be food-insecure.<sup>1</sup> Among households with children, the prevalence was higher at 15.7%<sup>1</sup>. Food insecurity poses a risk to children's health,<sup>2</sup> and has been found to affect health behaviors and outcomes, including higher rates of hospitalization,<sup>3–5</sup> lower immunity,<sup>5</sup> nutrient deficiencies and low diet quality,<sup>6–13</sup> and physical inactivity.<sup>14</sup> Food insecurity has also been associated with several psychosocial and mental health issues among children, including behavior problems,<sup>15–19</sup> poorer psychosocial functioning,<sup>19–21</sup> depression and suicidal ideation,<sup>15, 22, 23</sup> and mental disorders.<sup>24</sup> The mechanisms underlying these associations are unclear, but likely cannot be attributed solely to inadequate nutrition.

Food insecurity has a known psychological component.<sup>25, 26</sup> Psychological stress is often used to explain the effects of food insecurity on health risks, though no study has been able to tease apart the psychological stress associated with food insecurity, independent of poverty or other socioeconomic stressors.<sup>15, 18, 27, 28</sup> It has also been long assumed that children are protected from household food insecurity by their parents, and experience reductions in the quality or quantity of their diet in the most severe instances.<sup>29</sup> However, studies have increasingly shown that children in food-insecure families are not only aware of their family's limited food resources, but are physically and psychologically affected by it.<sup>16, 30, 31</sup> Prior qualitative work on children's food insecurity have focused on children's overall awareness and experience of household food insecurity. In a study in southern Mississippi, children ages 11–16 y described behavioral responses to food insecurity, including eating less food, eating less desirable food, feeling worried or sad about the family

food supply, and limited participation in social activities.<sup>32</sup> A study of 9–16 y children in South Carolina found that children showed cognitive, emotional and physical awareness of household food insecurity, with emotional awareness characterized by feelings of worry, sadness, and anger.<sup>33</sup> In another study conducted in the United Kingdom, children 5–11 y described the experiences of frequent hunger, hunger when food was unavailable, and hunger at bedtime.<sup>34</sup> Two of these children labeled their experience as “sad” or feeling annoyed when food was not available. All of these studies highlight themes of stress and emotional consequences related to food insecurity, but no study has explored the range of children’s psychological distress resulting from food insecurity.

The objective of this study was to obtain a better understanding of the children’s psychological distress of food insecurity in order to lend insight to the underlying mechanisms between food insecurity and children’s health outcomes. We use the broader term psychological distress to refer the overall negative affectivity that may result from food insecurity, and distinguish this from stress, which often refers to a physiological, behavioral, or biochemical reaction in response to an uncomfortable event.<sup>35, 36</sup>

## MATERIALS AND METHODS

Families were recruited from the San Francisco Bay Area through Internet postings, fliers at food pantries, social service agencies, as well as snowball sampling. The study was described as seeking healthy families to participate in “a research study that examines how families meet their food needs during difficult economic times.” Families were eligible if: 1) the parent reported at least one positive response to the 18-item USDA Household Food Security Survey Module,<sup>37</sup> 2) the child was between the ages of 7 and 14 years, and 3) the child was fluent in English (as reported by the parent). Interested parents were screened by the study coordinator for eligibility. The parent reported their family’s sociodemographic characteristics and food security status in an online questionnaire prior to the interview.

We conducted one-on-one, semi-structured interviews with 60 children and parents (ages 7–14 years) from 48 families. The present study reports the results of the children’s interviews. Parents provided written permission their children to participate in research. In families where more than one child was eligible (n=16), all eligible children were invited to participate. All children provided verbal or written assent. Parents were given a choice of conducting the interviews in either a private setting at the family’s home or at the UCSF Laurel Heights campus. Children’s interviews ranged from 15–60 minutes, and were conducted in a room separate from their parents. At the end of the interview, parents received \$40 and children received a \$20 Target gift card for their participation in this study. The study protocol was approved by the University of California, San Francisco (UCSF) Institutional Review Board

A semi-structured interview guide was developed by the research team, with expertise in food insecurity, health psychology, health disparities, and qualitative research methods. Additional questions were taken from prior qualitative studies of child food insecurity and eating behaviors. The interview began with assessing children’s overall awareness of food insecurity (Supplemental Table 1). Children’s experiences of food insecurity were probed

with questions about how they felt and coped with their situation. A flexible conversation format allowed the interviewer to respond directly to delve more deeply into topics raised by the child pertaining to food insecurity. Additional questions were used to critically explore emotions associated with food insecurity that have been reported in previous studies, including embarrassment,<sup>32, 38–40</sup> loneliness,<sup>38, 39</sup> anger,<sup>33, 39</sup> and sadness.<sup>33</sup> In each case, children were asked if they ever felt this way, to describe more about their situation, and how they coped with their feelings.

Interviews were audio-recorded, transcribed, and checked for accuracy. When data saturation was reached, meaning no new themes were identified in subsequent interviews, participant recruitment and data collection was concluded.<sup>41</sup> Data were analyzed using the constant comparative method, an iterative and inductive process to reveal themes that naturally emerge across multiple interviews. Three members of the project team independently read through the transcripts and created a preliminary codebook of emergent themes. Then, transcripts were independently coded and reviewed by the group. Discrepancies were resolved by the first two project team members until consensus was achieved. A final review of the emergent themes was conducted by the first two project team researchers. The final transcripts were entered into NVivo (QSR International Pty Ltd, version 11.4, 2017) to help organize the themes and examine patterns emergent in the data

## RESULTS

In the present study, semi-structured interviews were conducted with 32 boys and 28 girls. Children's ages were as follows: 19 children were aged 7–8, 23 were aged 9–11, and 10 children were aged 13–14. Children represented 48 families, of which 16 had more than one child participate in the study. Twenty-nine children identified as White, 16 were Black, four were Asian or Pacific Islander, five were Native American, and six were multi-racial. Of these, 16 children identified as Hispanic. Using parents' report of household food security, 8% of families had marginal food security, 43% had low food security, and 50% had very low food security.

Most children expressed awareness of their family's food insecurity and of insufficient food resources in the home. In addition to general awareness, children were also aware of how their extended family provided them with food and money in times of hardship, and that their family used food assistance programs (e.g. free school meals, Supplemental Nutrition Assistance Program (SNAP) benefits) or food pantries to help make ends meet. Children then discussed their experience of psychological distress related to food insecurity and strategies they employed to tolerate or cope with food insecurity. These themes are presented below.

### Children's Psychological Distress of Food Insecurity

Across the interviews, children revealed six themes about the psychological distress of food insecurity, including: 1) worrying about not having enough food; 2) worrying about their parents' well-being; 3) anger and frustration about not having enough food; 4) embarrassment about their family's food situation; 5) strain on the family's dynamics due to food insecurity; and 6) sadness over not having enough food (Table 2). There was some

overlap in the themes discussed due to the similarities of the psychological elements discussed.

**Worry about not having enough food**—Many children said they were worried about not having enough food or that they might run out of food completely. Several children discussed worrying about food in the context of other living expenses their parents had to pay. One 10-year-old shared a similar sentiment: *“It’s really expensive to live here. I know [my mom] has to pay bills and that always has to come first to have a roof over our heads. I know we should be grateful for what we have, but sometimes, I wish we didn’t have to worry about [getting food].”* Another 10-year-old talked about how her mother asked her to find work because they were struggling to buy food for their large family. She worried that they would become homeless one day if her parents couldn’t keep up with their bills.

**Worry about parents’ diet and well-being**—Children were aware of their parents eating less food or eating different foods to ensure the children had enough food to eat. One 10-year-old explained that it was because his mother didn’t have a job and his father doesn’t make enough money. He said, *“Sometimes, my mom didn’t eat because we had to eat. She sacrificed eating her meal for us to eat our meal... She never tells me. She just lets us eat and she eats the leftovers that we didn’t eat.”* Children were aware of how hard their parents had to work to earn money to buy food, particularly in the context of growing economic insecurity. As a result, they reported worrying about their parents’ well-being. One 8-year-old commented on how things were hard for his parents when his father wasn’t working, but even after his father found work, they still struggled. He said, *“[My dad] doesn’t look okay when he comes home [from work]. He just looks tired.”*

**Anger and frustration about not having enough food**—Children expressed anger and frustration in their experience of food insecurity. One 7-year-old described his anger at the physical sensation of hunger, saying, *“I’m like an animal that gets angry when he doesn’t get food. I feel like an animal that has to get food.”* Other children were frustrated when they were missing specific foods or ingredients for the meal they wanted (e.g. sandwich). A couple of children talked about having a hard time handling their emotions around food insecurity and would sometimes lash out at their parents in response. A 13-year-old boy said, *“I act okay. [Sometimes], I’ll tell [my mom] I’m angry and frustrated about it, and then she’ll [ask] me what is she supposed to do. She has the EBT, so if we run out early, it’s like, ‘what do you want me to do?’ She kind of gets frustrated when I get frustrated.”*

**Embarrassment about family’s food situation**—Children expressed embarrassment about their food situation relative to their neighborhood and their school, where they perceived other children to be wealthier than they were. One 7-year-old talked about how she was teased for not having enough food: *“I told my other friends that I had no money, no food, so they made me embarrassed by laughing at me...it made me feel sad and mad... [My teacher] had to announce that I had no money and food, so that’s when they stopped laughing at me. They knew [my teacher] was serious...I just had to walk away.”*

Another 9-year-old discussed her embarrassment about eating at fast food restaurants, knowing that the food was not healthy. She attempted to justify it to her friends by saying

her brother liked to “eat at all these junk food places,” rather than out of financial necessity. For other children, the embarrassment of not having enough food at home was magnified when trying to maintain a normal social life. While some children hid their situation from their friends, one 13-year-old described how she felt when her friends came to her house: *“One time, my friends came over. There wasn’t anything in the refrigerator or the pantry. Their parents make money, their parents have a good education, their fridge is always full. And they came over and there was nothing in the fridge.”*

**Strain on family dynamics due to food insecurity**—At times, food insecurity and its related negative emotions put a strain on the family relationship. Children described hiding their emotions from their parents as they realized their parents couldn’t help their situation or from their younger siblings because they didn’t want to worry them. Other children discussed feeling lonely and wanting to spend more time with their parents, but couldn’t because their parents were too busy working to earn money and provide for the family. One 7-year-old said *“One time I asked my mom, can she play with me, and she said not right now because she has to work more than 12 hours a day... I feel like [my parents] are spending a lot of time with money and they can’t really spend time with us. I feel kind of lonely...I just keep it all inside.”*

**Sadness over not having enough food**—Children expressed sadness in response to experiences related to food insecurity. One 10-year-old discussed feeling sad because she felt her family didn’t talk to her about their food situation and she didn’t understand what was happening. Another 10-year-old discussed feeling sad over worrying that they might not have enough money to pay their rent someday, if they couldn’t pay for food right now. Other children discussed feeling sad after realizing their parents didn’t have enough food to eat. Sadness was also attributed directly to the experience of food insecurity. One 13-year-old boy described this as: *“If the food runs out, I get sad a bit. Just sad. The kind of sad where you want to try to be happy but you know inside, you’re really sad about it.”*

### Children’s Coping with and Adaptation to Food Insecurity

Children described several themes pertaining to how they coped with or adapted to food insecurity: distracting from or using imagination to cope with food insecurity, increasing tolerance of their family’s food situation, and appreciating their parents for providing food and resources (Table 3).

**Distracting from or using imagination to cope with food insecurity**—Children mentioned several ways they distracted themselves from food insecurity, including watching TV, playing video games, listening to music, focusing on schoolwork, spending time with friends, or going to sleep. During one interview, one 7-year-old referred several times to his imaginary friend and how his friend would help him feel better when he felt hungry: *“[My imaginary friend] is the one who gives me the imaginary food, because he works at a place where you could get any food you want. I just imagine I have food. I imagine I have food, then eat the imaginary food.”*

**Increasing tolerance of family's food situation**—Many children discussed how they have grown increasing tolerant and adaptive to their family's food situation, including normalizing skipping meals and feeling hungry, or eating whatever food was available in the home. Some children described eating less for their parents or their younger siblings. When asked how this made them feel, one 10-year-old said, *"I feel fine. I feel proud."* Other children took comfort in the fact that their situation was not as bad as they imagined. They understood the trade-off between spending money on food or other basic needs. One 9-year-old said: *"I'm very adaptive. I just go along with whatever happens. If I don't get dinner it's fine because I know my mom is struggling... My mom could afford lunch for me, but then she wouldn't be able to pay bills. I'd rather have a home than lunch."*

**Appreciating parents for providing food and resources**—Children discussed the appreciation they had for their parents in providing food and other resources for them. Some children showed their appreciation by not letting any of their food at mealtimes go to waste, or by drawing pictures for their parents. Other children discussed their desire or ability to contribute to their family's resources, including wanting to get a job or giving their own savings to their parents for food or bills. Children also described feeling grateful when their parents gave them their food or when they thought about how their parents saved up food for difficult times. One 10-year-old said, *"We're been in rough times, but it's okay. If it wasn't for my mom saving up food, I wouldn't be here. I would probably be in a grave."*

## DISCUSSION

Unlike prior qualitative studies,<sup>32–34, 40</sup> which have described children's overall awareness and experience of food insecurity, our study focused on understanding the psychological distress associated with food insecurity, as told by children's own voices and experiences. Food insecurity is a multifaceted adverse psychological experience, even for children. In the present study, children discussed themes of anxiety over not having enough food, worrying about their parents' health and well-being, anger and frustration, embarrassment about their family's food insecurity, a strain on their family's dynamics, and sadness over not having enough food and related experiences – above and beyond their general awareness of household food insecurity. Children often discussed multiple themes within the same interview, suggesting the psychological distress could be magnified by the severity of the family's situation. The results of our study show there are more dimensions to the psychological distress of food insecurity than worrying about their food running out – currently the only question in the U.S. Household Food Security Survey Module related to distress - and this distress is perceived by children as young as age seven.

Children also discussed their coping and adaptation strategies for household food insecurity, which included distracting from or using imagination to cope with food insecurity, increasing tolerance of their family's food situation, and appreciating their parents for providing food and resources. Coping strategies can either be engagement with or disengagement from a stressful event.<sup>42</sup> The latter two themes discussed in the present study, increasing tolerance and appreciation of their parents, fall into the engagement coping category, meaning children change their outlook and regulate their emotions to cope with the stressor. The other theme, distracting from or using imagination to cope with food insecurity,



would be considered disengagement coping, which involves withdrawing from the stressor, avoidance, denial, and wishful thinking.<sup>42</sup> Whereas active and passive coping strategies have been associated with better stress management, disengagement coping has been associated with greater depression and poorer mental health.<sup>42–44</sup> Although the experience of food insecurity is inherently stressful and one in which children have little control over, how children cope with food insecurity may have implications for the degree to which they are physically and psychologically impacted by food insecurity and are put at risk for depression. Further research is needed to identify factors that predict children's differential coping responses to food insecurity and the role of parents and caregivers in children's coping and adaptation to food insecurity.

Our results corroborate prior research that preadolescent children are aware of family food insecurity and are able to report their own experiences of food insecurity.<sup>30, 33, 45–47</sup> Similar to these studies, children as young as age seven were aware of insufficient food resources in the home and knew their families struggled to provide enough food. Children were knowledgeable that their family used SNAP benefits or that they qualified for free lunch at school, and why their extended family members gave them food or money at certain times of the month. Some of these emotional responses described in the present study have also been echoed in previous qualitative studies. In the study by Connell and colleagues, children discussed feeling a lack of choice about the foods they ate and the shame of being labeled as “poor”.<sup>32</sup> Fram and colleagues found that children reported sadness over not having enough food or having to eat cheaper, lower-quality foods to cope with food insecurity, and embarrassment over their situation.<sup>33</sup> The combination of these prior studies and the present study highlight the commonality of the negative emotions experienced by children in response to food insecurity. Collectively, the psychological distress associated with food insecurity may constitute a form of chronic social adversity that can directly impact children's development and health.

Today, many clinicians already screen for food insecurity in pediatric clinics.<sup>48</sup> Results from the present study on the children's psychological distress should be incorporated into the training of healthcare staff, so registered dietitians, nurses, and physicians are equipped to discuss food insecurity issues with children and families with better sensitivity. Even though the food insecurity screening questions are completed by the parent, our study and other published studies show children are aware of food insecurity in their family and are emotionally affected by their experience. Knowing that the psychological distress of food insecurity could be contributing to children's behavioral or psychological conditions may encourage clinicians to connect families to nutrition programs and other community food resources. It may also be warranted to counsel parents to talk with children more about their food situation, particularly when they are in a position to be reassuring.

This study is limited by the generalizability of the data, because families were recruited from one geographic area and children had to be English-speaking. This may have excluded non-English-speaking children and families who may be at higher risks of food insecurity. In the current study, all parents who expressed interest also reported their children were fluent in English. However, future research should make efforts to recruit non-English-speaking families to better understand their experiences of psychological distress related to food

insecurity. Because parents also had to complete an online questionnaire before the interview, food-insecure families without regular Internet access or with greater social isolation may have been excluded from our recruitment strategies.

Our research was also limited in its scope, in that we specifically wanted to understand the psychological component of food insecurity and thus, did not spend as much time asking about other physiological or physical consequences. However, we were able to isolate emotions that were attributed specifically to food insecurity rather than to other correlates of poverty. Our participants were of a relatively narrow age range (7–14 years), as we intentionally wanted to capture children during the transition to adolescence. Because the use of child reports for food insecurity is still relatively novel, we hope future studies will continue to use children's voices to better understand all aspects of the lived experience of food insecurity among children across various stages of development.

## CONCLUSION

The present study highlights multiple elements of psychological distress associated with food insecurity in children, a complex phenomenon for children with varied emotional responses. Understanding the chronic, psychological distress of food insecurity provides some mechanistic insight for the observed associations between household food insecurity and children's mental health, and may inform the development of policies or programs that more holistically address the consequences of food insecurity

## Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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**RESEARCH SNAPSHOT:****RESEARCH QUESTION:**

How are children psychologically affected by the experience of household food insecurity?

**KEY FINDINGS:**

In-depth interviews with 7–14-year-old children revealed a multifaceted complex distressing experience. Six themes related to the psychological distress of food insecurity included anxiety over not having enough food, worrying about their parents' health and well-being, anger and frustration, embarrassment about their family's food situation, a strain on their family's dynamics, and related experiences. Children also discussed differential strategies they employed to cope with the psychological distress of food insecurity.

**Table 2:**

Emerging themes and quotes related to the psychological distress of food insecurity from 60 children (7–14 y) in food-insecure households recruited from the San Francisco Bay Area

Theme	Sample Quotes
Worry about not having enough food	<p>“I just know it’s really expensive to live here. I know [my mom] has to pay bills, and that always has to come first, to have a roof over our heads. I know we should be grateful for what we have and everything but sometimes I wish we didn’t have to worry about [not having enough food].”</p> <p>“Sometimes I worry because I don’t think we have enough food.”</p>
Worry about parents’ diet and well-being	<p>“Sometimes, my mom didn’t eat because we had to eat. She sacrificed eating her meal for us to eat our meal... She never tells me. She just lets us eat and she eats the leftovers that we didn’t eat.”</p> <p>“Sometimes we don’t have enough of something that all of us want. If it’s egg or toast, and we don’t have enough for my dad or my mom, they will eat cereal while we get eggs... [I feel] bad because we’re not getting enough food for the whole family.”</p> <p>“When my mom says she can’t do it anymore... work and hustling to put food on the table... Sometimes, I’ll feel worried.”</p> <p>“[My dad] doesn’t look okay when he comes home [from work]; he just looks tired.”</p>
Anger and frustration about not having enough food	<p>“When the fridge is empty and there’s nothing to eat, I get really frustrated, especially when there’s no ingredients for my sandwiches.”</p> <p>“It makes me feel angry when I don’t get food. I’m like an animal that gets angry when he doesn’t get food. I feel like an animal that has to get food.”</p> <p>“I act OK. I’ll tell her I’m angry and frustrated, and then she’ll tell me what is she supposed to do. She has the EBT so if we run out early, she says, ‘What do you want me to do?’ I don’t know... She gets frustrated when I get frustrated.”</p>
Embarrassment about family’s food situation	<p>“I told my other friends that I had no money, no food so they made me embarrassed by laughing at me... It made me feel sad and mad.... My [teacher] had to announce that I had no money and food, so that’s when they stopped laughing at me because they knew [teacher] was serious about it... I just had to walk away.”</p> <p>“One time, my friends came over. There wasn’t anything in the refrigerator or the pantry. Their parents make money, their parents have a good education, their fridge is always full and they came and there was nothing in the fridge.”</p> <p>“I don’t like it when people do stuff for me. I’m not used to it... My mom will usually accept it but I will feel awkward about it.”</p>
Strain on family dynamics due to food insecurity	<p>“One time I asked my mom, can she play with me, and she said not right now because she has to work more than 12 hours a day... I feel like [my parents] are spending a lot of time with money and they can’t really spend time with us. I feel kind of lonely... I just keep it all inside.”</p> <p>“There’s not a lot of people who are going through similar things around here. I don’t feel like I can talk to my mom or dad about this because they’re probably going through much worse than I am. I can’t talk to my sister either. I consider myself a little bit lonely in this situation.”</p>
Sadness over not having enough food	<p>“I feel kind of sad [about almost running out of food in the house]. Because sometimes, other kids in other countries don’t have food, so I felt sad for me because we don’t have enough food.”</p> <p>“If the food runs out, I get sad a bit. Just sad. The kind of sad where you want to try to be happy but you know inside you’re really sad about it.”</p>

Emerging themes and quotes related to coping with or adaptation to food insecurity from 60 children (7–14 y) in food-insecure households recruited from the San Francisco Bay Area

**Table 3:**

Theme	Sample Quotes
Distracting from or using imagination to cope with food insecurity	<p>“[My imaginary friend] is the one who gives me the imaginary food, because he works at a place where you could get any food you want. I just imagine I have food. I imagine I have food, then eat the imaginary food.”</p> <p>“Just usually listen to music... wasting my time on something else. I try to forget about [not having enough food].”</p>
Increasing tolerance of family’s food situation	<p>“I’m very adaptive. I just go along with whatever happens. If I don’t get dinner it’s fine because I know my mom is struggling... My mom could afford lunch for me, but then she wouldn’t be able to pay bills. I’d rather have a home than lunch.”</p> <p>“I used to think about [not having enough food] a lot more often, like every day. Now I just know it’s there.”</p>
Appreciating parents for providing food and resources	<p>“Sometimes, my parents just give me their food. I think it’s actually kind of worth it... It doesn’t really matter which food you get. Let’s just be grateful about it.”</p> <p>“I don’t care if I don’t eat for a day. If I didn’t eat for a week, that’s when I would start saying stuff, but 2–3 days is fine... We’re been in rough times, but it’s okay. If it wasn’t for my mom saving up food, I wouldn’t be here. I would probably be in a grave.”</p>