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Understanding food insecurity in Los Angeles County during the COVID-19 pandemic and its aftermath: A qualitative interview study

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ABSTRACT

The COVID-19 pandemic brought increases in food insecurity in Los Angeles (L.A.) County, defined as lacking household access to adequate food because of limited money or other resources. Here, we aimed to understand the lived experiences of food insecurity during the COVID-19 pandemic and its aftermath. In August–December 2022, we interviewed 30 residents of L.A. County who were participants in an ongoing internet panel and had reported experiencing food insecurity between April 2020 and July 2021. A stratified-sampling approach was used to recruit a diverse sample with and without government food assistance. We report five key findings, which underscore the stress and worry associated with the experience of food insecurity, and the coping strategies people implemented: (1) The pandemic prompted food insecurity as well as stressful shifts in eating behaviors compared to before the pandemic, with some eating much less food, some eating less nutritious food, and some eating much more due to being stuck at home; (2) Buying food became more effortful and financially challenging; (3) Government food assistance from the Supplemental Nutrition Assistance Program (SNAP) was important for reducing food insecurity, but was sometimes insufficient, inconsistent, and didn't cover all retailers or food items; (4) Interviewees had to rely on their social networks, food banks or pantries, churches, and schools to meet their food needs and cope with food insecurity, but some faced barriers in doing so; (5) For some, food insecurity was worse in late 2022, almost two years after the pandemic started. We conclude with implications for policymakers and practitioners, emphasizing the importance of meeting the needs of diverse residents and addressing food insecurity in the aftermath of the COVID-19 pandemic.

1. Introduction

Food insecurity is defined as a lack of household access to adequate food because of limited money or other resources (Castillo et al., 2012; Christian et al., 2020). There is also a growing emphasis on addressing the related concept of nutrition insecurity, which refers to a lack of access to nutritious food that is needed for optimal health and wellbeing (Mozaffarian, 2021). People who experience food insecurity tend to have lower-quality diets, compared to those who are food secure (Hanson & Connor, 2014; Laraia, 2013; Luo et al., 2022; Morales & Berkowitz, 2016). They might select less nutritious food for a myriad of reasons, including the lower costs, convenience, and longer shelf life (Frongillo & Bernal, 2014; Moraes et al., 2021). As such, experiencing food insecurity puts people at a higher risk for diet-related diseases like type 2 diabetes, hypertension, heart disease, and obesity (Bergmans et al., 2019; Chow et al., 2020; Gundersen & Ziliak, 2015; McClain et al., 2021). Moreover, experiencing food insecurity can be very stressful (Mullainathan & Shafir, 2013; Shah et al., 2012), and cause mental health problems such as depression and anxiety (Fang et al., 2021).

Residents of Los Angeles (L.A.) County may be especially vulnerable to food insecurity, given the region's high cost of living and tight budgets for many households (Diamond & Moretti, 2023). L.A. County is the

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most populous county in the United States, counting ten million ethnically and racially diverse residents in 2020 (US Census Bureau, 2022a). As many as 1.4 million (14%) were estimated by the US Census Bureau (2022b) to live below the poverty line, which is computed based on household income and family size.

Moreover, the COVID-19 pandemic brought an unprecedented increase in food insecurity among L.A. County residents (de la Haye et al., 2020; 2022a). Food insecurity rates in the county are typically tracked among low-income households, specifically those with incomes at or below 300% of the Federal Poverty Line, as these households are most at risk of experiencing food insecurity (LACDPH, 2021). In the decade prior to the COVID-19 pandemic, food insecurity among low-income households in L.A. County was 31% in 2011, 29% in 2015, and 27% in 2018 (LACDPH, 2021). Between April and July 2020, surveys found that this rate rose to 42%, and disproportionally affected individuals who were Hispanic/Latino, Black, and living in single-parent households (de la Haye et al., 2020; 2022a). Such a substantial increase suggests that the pandemic created novel challenges that exacerbated food insecurity (Morales et al., 2021).

The increase in food insecurity in L.A. County during the early months of the pandemic was driven partly by economic hardship and loss of work (California Employment Development Department, 2022). The virus' progression and a State-wide stay-at-home order brought an unprecedented halt to economic activity in L.A.: in April 2020, L.A. County unemployment peaked at 20% and was still 18% by July 2020 (California Employment Development Department, 2022). Nearly one million Angelenos contracted the virus by January 2021, with many experiencing severe illness and hospitalizations (Hill & Artiga, 2022; Newsom, 2020). Contracting COVID-19 put people at higher risk for food insecurity (de la Haye et al., 2020). The pandemic also created broader challenges in food access due to initial closures and restrictions at key places where people get food including restaurants, schools, community centers, and congregant settings (Los Angeles County, 2020b, 2020c; Newsom, 2020; Rector, 2020). Disruptions in the national and global food supply additionally contributed to food access challenges, such as shortages of essential food items and empty supermarket shelves, particularly early in the pandemic, and continually rising food prices (Kakaei et al., 2022). Moreover, residents in some low-income neighborhoods faced additional burdens in accessing affordable healthy food, including lacking personal transportation, living in "food deserts" with limited access to supermarkets, and living in "food assistance deserts" with low access to food pantries (de la Haye, Wilson, et al., 2022).

There is evidence from survey data that some L.A. County households facing food insecurity had little or no food assistance, while others were able to cope by getting food from family and friends, food pantries, and government programs (de la Haye et al., 2020). Since the onset of the pandemic, local government records also showed a 20% increase in enrollments in CalFresh – the California version of the Supplemental Nutrition Assistance Program (SNAP) (de la Haye et al., 2020) – while the L.A. Regional Food Bank (2023) increased their food distribution by 85%. While food assistance may provide temporary relief, some government policies and programs have reduced food insecurity both historically and during the pandemic (de la Haye et al., 2020; 2022a; 2023a). Specifically, studies have shown that SNAP helped some people transition from food insecurity to food security in 2020 (de la Haye, Saw, et al., 2023). Other programs and initiatives that may have played a role in lowering food insecurity rates by 2021 include three rounds of Economic Impact Payments, Pandemic-EBT (Electronic Benefits Transfer) which provided parents of school-aged children with additional financial support to purchase food, and expanded unemployment benefits (Bitler et al., 2020; Livings et al., 2023). However, as inflation and food prices increased throughout 2021 and 2022, and pandemic-era food and government benefits were rolled back, surveys showed that food insecurity in L.A. County rose again to 24% by December 2022 (de la Haye et al., 2023a,b). National rates of food insecurity also significantly increased in 2022 to 12.8%, up from 10.2% in 2021 (Rabbitt et al., 2023).

Published reports of L.A. County's spiking food insecurity rates during the COVID-19 pandemic have underscored the need to better understand the first-hand lived experiences of people who have been directly affected by the issue (e.g., de la Haye, Wilson, et al., 2022). Qualitative interviews provide a deeper understanding of the individual experiences underlying survey-based statistics (Bruine de Bruin & Bostrom, 2013). Such insights are especially needed in L.A. County, which has a large and diverse population, including many individuals who face food access barriers that can be exacerbated during crises such as the COVID-19 pandemic (de la Haye, Wilson, et al., 2022). A qualitative understanding of their experiences is important for creating effective and evidence-based policies that aim to address the root causes of complex issues like food insecurity (Abbott & Wilson, 2014; Bruine de Bruin & Bostrom, 2013). A handful of studies have used a qualitative approach to understand food insecurity during the COVID-19 pandemic in other populations, including parents in San Francisco (Leung et al., 2022), and food pantry utilizers in Dallas (Higashi et al., 2022). These qualitative interview studies shed light on the stressful lived experiences of food insecurity related to eating habits, food buying, and food assistance (Leung et al., 2022; Higashi et al., 2022). However, none focused on Los Angeles County.

In this paper, we report on 30 semi-structured qualitative interviews conducted with a diverse sample of L.A. County residents, all of whom had reported experiencing moderate or severe levels of food insecurity at least once across twenty-eight panel survey waves conducted between April 2020 and July 2021 with the representative L.A. County sample of the Understanding America Study (de la Haye, Saw, et al., 2023). These guiding research questions aimed to understand interviewees' lived experiences:

(1) How has the pandemic affected interviewees' eating habits?
(2) How has the pandemic affected interviewees' shopping behaviors?
(3) What were interviewees' experiences with accessing and utilizing food assistance (SNAP)?
(4) What are interviewees' experiences with accessing and utilizing community-based food assistance resources?
(5) What are interviewees' experiences with food insecurity in the aftermath of the pandemic?

2. Methods

2.1. Sample

We conducted semi-structured qualitative interviews with thirty adult L.A. County residents about their experiences with food insecurity during the COVID-19 pandemic and its aftermath. A sample of 15–20 interviewees has usually been sufficient to identify which themes arose in the interviews (Morgan et al., 2001). Indeed, by our 15th interview, all relevant themes had emerged, also referred to as the "saturation point." Thus, our sample of thirty interviews was more than sufficient.

Interviewees were recruited from the representative L.A. County sample of the University of Southern California's Understanding America Study (Understanding America Study, 2022), a probability-based internet panel. To assess food insecurity, the UAS employed three items from the validated Food Insecurity Experiences Scale (FIES) created by the Food and Agriculture Organization (FAO) of the United Nations (Cafiero et al., 2018). L.A. County residents were eligible to participate if they had answered "yes" to at least one of the following two questions across twenty-eight panel survey waves between April 2020 to July 2021: "in the past seven days, did you eat less than you thought you should because of a lack of money or other resources?" and "in the past seven days, did you go without eating for a whole day because of a lack of money or other resources?" Respectively,

these questions reflect moderate and severe food insecurity (Cafiero et al., 2018).

To capture the diversity of residents with food insecurity in L.A. County, we utilized a stratified sampling strategy, seeking diversity in race/ethnicity, gender, parents and non-parents, as well as SNAP recipients and non-recipients. Our final sample, presented in Table 1, included fifteen interviewees who identified as Hispanic/Latino of any race, seven as White alone, five as Black alone, two as Asian alone, and one as mixed-race. Fifteen identified as women and fifteen as men. Our final sample was diverse in terms of age (average = 45, range 23–69), and education (including ten interviewees with, and twenty without a Bachelor's degree). Twelve interviewees reported household incomes lower than $20,000, thirteen reported incomes between $20,000 and $59,999, and five reported incomes of $60,000 or greater. In 2022, the poverty line for L.A. County was $18,310 for a household of 2, $27,750 for a household of 4, and $37,190 for a household of 6 (Los Angeles County, 2020a). Nine interviewees lived in households with children, while twenty-one did not. Twenty-two interviewees were SNAP recipients, and eight were non-recipients.

2.2. Procedure

Interviews were conducted by members of our study team from August to December of 2022. The interview began with open-ended questions about interviewees' experiences related to the COVID-19 pandemic. Subsequent questions covered interviewees' eating behaviors, food access, food environments, as well as experiences in accessing support systems and resources. Interviewers asked interviewees to reflect on their experiences before the pandemic, at the beginning of the pandemic in March or April of 2020, and at present. Interviews tended to last approximately 45 min. All interviewees were offered an incentive of $40. With the informed and explicit verbal consent of interviewees, all interviews were audio-recorded and professionally transcribed. The Supplemental Materials provide the full qualitative interview protocol.

Table 1
Overview of interviewee characteristics (N = 30).

Variable	n	%
Race		
Hispanic, Any Race	15	50%
White Alone	7	23%
Black Alone	5	17%
Asian Alone	2	7%
Mixed Race	1	3%
Gender		
Female	15	50%
Male	15	50%
Age		
18–32	6	20%
33–40	8	27%
41–50	6	20%
51–60	5	17%
61–70	5	17%
Education Level		
Less than bachelor's degree	20	67%
Bachelor's degree or higher	10	33%
Income		
Less than $5,000	1	3%
$5,000 to 19,999	11	37%
20,000 to 34,999	8	27%
35,000 to 59,999	5	17%
60,000 to 99,999	4	13%
100,000 or more	1	3%
Households with Children	9	30%
SNAP Recipient	22	73%

2.3. Coding

We used an inductive approach to systematically identify topics raised by interviewees. Specifically, the study team created the coding scheme after reading the transcripts, to reflect what interviewees said. This coding scheme was then used by two members of the study team to independently code three transcripts, which were randomly selected from the thirty transcripts. These coders reached 80% agreement on the three transcripts, which corresponds to a Cohen's Kappa statistic of 0.60, indicating sufficient agreement (McHugh, 2012). Disagreements were resolved through discussion between the two coders and the supervising author, and were used to fine-tune the coding scheme. The remaining interviews were divided between the two coders. Below, we present a thematic analysis of the interviews, including at least two quotes for each of the presented findings, alongside interviewees' race and gender.

2.4. Ethics considerations

This study was reviewed and approved by the Institutional Review Board at the University of Southern California (UP-22-00041). Procedures performed in this study involving human interviewees were in accordance with ethical standards set forth by the Declaration of Helsinki. Interviewees gave informed verbal consent for quotes to be shared anonymously. We only have IRB approval to share full transcripts with our team, the funder, and the USC IRB.

3. Results

3.1. Finding 1: the pandemic prompted food insecurity as well as stressful shifts in eating behaviors compared to before the pandemic, with some eating much less food, some eating less nutritious food, and some eating much more, while being stuck at home

Interviewees in our study reported eating differently before the pandemic, compared to after it began. When asked if she was able to get the food she wanted and needed before the pandemic, one Hispanic woman (interview #6) shared: "*Yes, [before the pandemic] I was always able. I was more than able. I lived lavishly [laughs].*" A Hispanic man (interview #30) said: "*[Before the pandemic] I ate more than I do now. I ate pretty good … I ate not only my three meals a day but extra as well. I was eating very good at the time. I felt like life was pretty good at the time. There was no inflation yet. Things were more affordable.*"

Interviewees discussed four types of shifts in eating behaviors during the pandemic, which were often described as stressful. First, they reported eating less, by skipping meals. For example, one Hispanic woman (interview #5) shared: "*[During the pandemic] there was a couple of times I did not want to eat because I was scared. Even though we had enough, I felt that it wasn't for me. I just didn't want [my children] to go hungry.*" Another Hispanic woman (interview #6) shared similarly: "*I was doing one dinner a day instead of two meals. I don't eat breakfast, so I was doing one meal a day. Every day I eat less than I normally would. Every day.*" Eating less also involved limiting food intake at a given meal. A Hispanic woman (interview #11) reported: "*I think I would just say from when the pandemic started which was March of 2020 to August of 2021, we would try to eat smaller portions so we can try to stretch out our meals.*" One Hispanic man (interview #14) shared: "*String beans and eggs, you know, doesn't really fill you up, you know. I wouldn't have a full course meal.*" Reported changes persisted into the present for some interviewees. A non-Hispanic white man (interview #7) shared: "*I skipped lunch and breakfast. And, in the beginning, I was very hungry. But then after a while, my body just adjusted to it. I'd say maybe the first couple of months was hard, and then after that, it just seemed like normal. […] My appetite definitely now has changed a lot since let's say before pandemic.*" A non-Hispanic Black man (interview #4) said: "*I would have to [skip meals] up until now. It's still up until now.*"

Second, interviewees discussed shifting toward more energy-dense foods. One non-Hispanic white woman (interview #17) explained,

"*We only ate once a day. Yeah, I was hungry, so I just drank. I drank beer or water or Tang.*" A non-Hispanic white man (interview #7) shared, "*[As an essential worker] I would be out on the field and a lot of [restaurants] would be closed, so it would be hard for me to get food. Instead, I would pick the junk foods at the grocery stores, like microwave pizza because I can't cook. I noticed I would get a lot lazier, too. I really didn't want to drive so if I wanted to get food, I would have to get it delivered from another city, which got expensive. So sometimes I just wouldn't eat at all until I got home."*

Third, interviewees reported eating more than usual to cope with being stuck at home for long periods of time. Some reported that being stuck at home influenced them to eat more and even gain weight. One Hispanic woman (interview #5) shared: "*Before [the pandemic] I was eating healthy. I was watching what I was eating. Now, I've gained a lot of weight, like a lot. Now that I'm at home, it's harder for me to start eating again healthy. But I'm not going to lie. I had a relapse a couple of times [Laughs]. A relapse of starting eating healthy at first, and then craving unhealthy, going out to [fast food] […] What hit me the most was depression, that we had to stay quarantined for a while. […] To be honest with you I felt like I lost part of me during that time.*" A non-Hispanic Asian man (interview #15) shared: "*I mean I think this might be true for everyone, but I think everybody gained weight at home during the pandemic. We were just stuck at home, and so really there was not much anybody could do. So, a lot of our time spent together was making bread and cookies [from online] recipes with what we had and just using everything from the pantry because we were not eating out. We were home, so we had the time to take more time to cook together as a family and sit down and eat and just talk about things. So the majority of our time was spent eating … it was just a lot of time spent together with food involved.*" Others did not mention weight gain but discussed the desire to eat more while stuck at home. A non-Hispanic Black woman (interview #10) noted: "*And then you're in quarantine. I mean, you're eating more because you're at home. I think that was the biggest thing, too, because we're at home all day. It's weird because you're in the house, you're still functioning, but it's like, 'Okay, I kind of want a snack. I'm not really that hungry, but I need to make sure I have enough for this day or for this time.*'" A Hispanic woman (interview #20) explained similarly: "*[During the stay-at-home order] I ended up actually eating more. Yeah, 'cause again, nothing to do. So you just end up eating.*"

Fourth, some interviewees reported that their diet became healthier during this time. One Hispanic man (interview #25) noted a shift to eating salads that stuck over time: "*Only thing [that] changed in being readily accessible is probably the noodles. […] I actually just stayed with the salad, chicken salad routine, instead of the noodles, because it's a lot healthier.*" A Hispanic woman (interview #6) shared that her diet changed "*A little bit because I remember we were not encouraged to dine in restaurants anymore. So, I ate at home most of the time and I guess I got healthier. So, instead of a restaurant meal, I'll eat like a banana. I'll eat an avocado. I'll eat watermelon. Cheaper and healthier options.*"

3.2. Finding 2: buying food became more effortful and financially challenging

Interviewees reported exerting greater effort when shopping for food. A Hispanic woman (interview #3) explained: "*Before [the pandemic], I would just grab stuff, 'Okay. Put that in the cart. Put that in the cart.' Now I checked the prices. Check the prices, check when it is good to what time, to what day. So it's a lot of thinking. [In the earlier days of the pandemic] I used to worry a lot. A lot.*" A non-Hispanic Black woman (interview #8) shared, "*I've had to make changes to what I buy, like getting non-name brand food items that were cheaper or having to go without for a week or until I saw it available again. Diet cranberry juice that we drink every morning, regular milk, and eggs were all hard to find. It was either not available or the price was more than I could afford.*" Interviewees specifically mentioned financial trade-offs between paying for food or other expenses: One non-Hispanic Black woman (interview #10) shared, "*it really became a norm to budget, to only get what's necessary. I literally was obsessing. Do I pay this bill or can we get some cereal?*" A Hispanic man (interview #27) said, "*[The problem] was more so food planning and food scheduling so that we would make sure that we didn't have any kind of crazy, strenuous bills that would cause us to worry about whether or not we had food.*"

In response to rising prices and pandemic closures, some interviewees discussed transitioning away from in-person shopping to online or store-delivery groceries. A non-Hispanic white woman (interview #16) discussed: "*Since the pandemic I have started doing grocery shopping online at Wal-Mart. They deliver to the front door. It seems to be cheaper than anywhere else. So that's been my big change. Yeah. I was never a Wal-Mart shopper before.*" A non-Hispanic white man (interview #13) shared: "*Amazon Fresh was delivering. I was less afraid. And that's what I – in fact, to this day where I get most of my groceries is Amazon Fresh. Because you just can't beat their prices.*" Additionally, interviewees mentioned shifting their shopping to new physical store locations. One non-Hispanic white man (interview #19) said: "*The prices went up and a lot of stores actually closed during the pandemic. A lot of things closed and they haven't reopened back in my neighborhood at least, [like] the neighborhood grocery store. Now we have to go to the big box store.*" A non-Hispanic white woman (interview #17) shared, "*Instead of going to [a large chain grocer], we went to the 99-cent store. We went to Dollar Tree. We went to cheaper places."*

3.3. Finding 3: government food assistance (SNAP) was important for reducing food insecurity, but it was sometimes insufficient, inconsistent, and didn't cover all retailers or food items

Interviewees who had received food assistance through the SNAP program at some point during the pandemic, tended to express that the resource played an important role in staving off food insecurity. When asked about how he felt after receiving SNAP, a non-Hispanic Black man (interview #24) reported feeling "*A sense of relief. I have lots of bills. Therefore, I didn't have to use that money. Because I have the EBT."* A Hispanic woman (interview #26) said: "*[SNAP] made it really easy because it gave me more security knowing that my kids were going to have food. Like, I didn't have to worry about the milk being six dollars. I had enough money to buy my kids three gallons of milk without having to budget.*"

However, SNAP recipients also mentioned limitations to the benefit amount. A mixed-race woman (interview #9) shared: "*[SNAP] does run out, though. I mean, I know – I've noticed that it does. […] Usually by the end of the month, I'm paying out of pocket."* A Hispanic woman (interview #6) said: "*The only tricky thing is I can spend only $50 a week on groceries using my EBT. Only, not over, only $52. That's it."*

Furthermore, some SNAP recipients noted that their benefits had increased at various points over the course of the pandemic. One mixed-race woman (interview #9) shared: "*I just got a recent increase. And – yeah, I mean, I can't say they've kept pace [with inflation] but I would say they're definitely trying.*" Similarly, a Hispanic woman (interview #12) noted that "*they increased the amount [of SNAP benefits] little bit by little bit.*"

Additionally, SNAP recipients shared that their benefits had decreased at some point. For example, a non-Hispanic Black man (interview #4) shared: "*They would change the SNAP – they would change the amount they would give you. Starting with the pandemic they raised it up. And then, in the middle of the pandemic, they lowered the amount of money they gave you.*" A Hispanic woman (interview #3) said: "*So that was another thing that I was stressing about, […] As we needed more, they lowered them."*

Finally, SNAP recipients expressed feeling surprised at the limitations around where or on what the benefits could be used. A non-Hispanic white man (interview #13) reported: "*Certain things you can't buy on it but most things you can. Like, you can't buy cooked chicken, which is crazy. But they don't allow it.*" A non-Hispanic Black man (interview #4) said: "*Most places that I go to don't accept SNAP. Well, certain little, small stores, they don't want to take the SNAP card, and they might have certain canned goods that you might want, but you got to pay cash. But they don't want to take SNAP.*"

3.4. Finding 4: interviewees had to rely on their social networks, food banks or pantries, churches, and schools to meet their food needs and cope with food insecurity, but some faced barriers in doing so

Interviewees also mentioned having to meet their food needs by accessing (1) their social networks (including friends, family, and neighbors), (2) food banks or pantries, (3) churches, and (4) schools. They mentioned reasons for and against accessing each of these four community-based resources.

First, interviewees mentioned using their social network to navigate their food insecurity. A non-Hispanic Black woman (interview #10) shared: "*It was a lot of the barter system going on. What I mean by barter system, 'Hey, I have this. I can help you with this for that.' A lot of my neighbors, we kind of banded together*." A non-Hispanic white man (interview #13) shared: "*I knew that no one was going to let me starve. I mean, I'm fortunate in that way. I have a friend that lives down the hallway and if she makes a pot of pasta or something she'll bring some over. And if I cook a bunch of pasta and I have leftovers, I'll give it to her. So, it was sort of like we watched out for each other*." However, some interviewees said that they did not rely on their social network, with the most common explanation being, as a Hispanic woman (interview #26) said: "*a lot of us stayed mostly to ourselves … everyone was pretty much on their own to be honest.*" A non-Hispanic white woman shared: "*I kind of think everyone just kind of was going through it themselves*." Others said that they had no nearby family they could rely on. A non-Hispanic Black man (interview #4) said: "*I don't have any family out here.*" A Hispanic man (interview #28) shared: "*They are in another state*."

Second, some interviewees reported that they used food banks or pantries at least once during the pandemic, on average twice a month. A Hispanic man (interview #14) shared: "*During the pandemic when [we had] empty shelves and stuff in the market. There's a park by my house and we went there and got food – the food bank gave it to us*." A non-Hispanic Black woman (interview #10) discussed tearfully: "*Thank goodness for the food banks, thank goodness for all the different communities that came together. I went to a lot of those drive-through food banks and the pick-ups, and that has tremendously helped me. I didn't know where I was going to get my baby cereal.*" However, some interviewees reported not going to a food bank or pantry. Some said that they felt like they were taking resources from people who needed them more. A Hispanic woman (interview #12) shared: "*I really thought [about] this [but] I didn't want to take it away from someone else that really needed it.*" A Hispanic man (interview #27) said: "*We don't [want to] take advantage of systems that we're not in need of*." Other interviewees gave the reason that some items food banks offered were undesirable. A non-Hispanic Black man (interview #24) said: "*they don't get meats. They mostly get canned goods and vegetables. [They gave] fruits with spikes on them. I've never – you know … they eat different than we do*." Another non-Hispanic Black man (interview #4) shared: "*Most of the stuff [the food banks] have is not fresh food. So like I said, I just wait till I go to the market.*" Some also shared that going to a food bank was socially uncomfortable; a Hispanic woman (interview #6) explained, "*It makes no sense but I'm too proud to go to those places*," and a Hispanic man (interview #25) shared: "*[Going to the food bank is] embarrassing. And the process was always a little unclear*." Others reported that they did not know any nearby food banks. A non-Hispanic Asian man (interview #15) shared: "*There are [no food banks] in our area that I'm aware of, so I never sought out to look for it*," and a non-Hispanic white woman (#17) said: "*I didn't know of any [food banks], so I didn't [use them].*" Finally, some interviewees reported that they did not go to a food bank for fear of COVID. A non-Hispanic white man (interview #19) shared: "*I was afraid because of COVID*," while a non-Hispanic white man (interview #13) who was immunocompromised said "*I never went. The social worker told me about it but I was afraid to go.*"

Third, interviewees mentioned getting help from a local church. A non-Hispanic white woman (interview #2) who also went to food banks said that between the two, she relied on churches the most: "*[churches were] more helpful. Like, even if they're not providing food that day or whatever, I go in there and if they see you're in need they try to help the best they could. I've even had some that just helped out of pocket.*" A non-Hispanic Black woman (interview #8) shared: "*At the end of 2020 and 2021, the church gave us food. We got a fairly large box. It was chicken, rice, beans, some canned food, some bottles of water. Since it was around the holidays, there was stuffing for turkey*." No interviewees mentioned reasons for avoiding churches to help with food access.

Fourth, interviewees shared that they got help from a school. A Hispanic man (interview #14) shared: "*Oh, a school had – how do you say it? You go to and pick up a couple bags of lunch or whatever they give, like a drive-through.*" Another non-Hispanic white woman (interview #16) expressed: "*I think the schools was the biggest thing. So, we would drive through, you'd open up the trunk and [a volunteer] would put a bag in. They would always give us enough – every day you could have enough for four lunches.*" No interviewees mentioned reasons for avoiding schools to help with food access.

3.5. Finding 5: for some, food insecurity was worse in late 2022, almost two years after the pandemic started

Although the COVID-19 pandemic led to an increase in food insecurity in L.A. County, many interviewees reported that their situation in late 2022 was worse. When asked about her worries about being able to get enough food throughout the pandemic, one Hispanic woman (interview #12) shared: "*In the beginning and then towards like the middle of it, it was very worrisome. But then after I guess adjusting or accepting – you know, I guess I can't explain it exactly. But yeah. It got better. I mean, it was worse but then it started to go a little bit better … And then, it got worse again [laughs].*" A Hispanic man (interview #27) shared: "*It wasn't until inflation started really showing its face that food prices started taking a toll, which was more so 2021 and currently. […] Now instead of buying two gallons of milk, you only buy half-a-gallon of milk.*" A mixed-race woman (interview #9) explained: "*Recently prices have gone up like crazy. And then they stayed there.*"

Interviewees also cited decreased government benefits as an additional contributor to the present pressure. A Hispanic woman (interview #20) shared: "*They gave a lot of money on the food stamps in the beginning. I would say the food insecurity is more now than then. The food [prices] are going up, and the benefits are only going down. Especially with inflation happening right now, it's nonstop.*" One non-Hispanic Black woman (interview #8) who became ineligible for SNAP benefits following her re-employment at the end of 2021 said: "*[After losing SNAP] I had to change the brands of food that I bought so I was definitely checking prices to make sure that it was within my budget that I set aside from my job*."

4. Discussion

Survey-based reports of L.A. County's spiking food insecurity rates during the COVID-19 pandemic have emphasized the need to conduct qualitative interviews to better understand the first-hand lived experiences of food insecurity in this large and diverse population and identify potential ways to improve the situation (e.g., de la Haye, Wilson, et al., 2022). The present study sought to understand how the COVID-19 pandemic and its aftermath impacted eating behaviors, food shopping behaviors, and access to food assistance among residents of L.A. County who had experienced food insecurity. Based on 30 semi-structured interviews with residents who had reported food insecurity in surveys between 2020 and 2021, we report five main findings, which underscore the stress and worry people with food insecurity faced during the pandemic, as well as the coping strategies they implemented. Indeed, our findings provide a deeper understanding of the lived experience underlying new evidence in the literature of associations between food insecurity and mental health (Fang et al., 2021).

The first key finding was that the pandemic prompted food insecurity as well as four different types of shifts in dietary behaviors while being at

home. Interviewees reflected that before the pandemic, they were able to get the food that they wanted or needed. However, after the pandemic started, they experienced food insecurity that led them to eat far less, including skipping meals and limiting food intake at each meal. A second dietary shift involved consuming less nutritious food items, including drinking beer and eating junk food during the pandemic. A third dietary shift involved eating more and gaining weight, which interviewees self-attributed to heightened emotions during long periods of time in boredom at home. Although these interviewees did not explicitly associate this overeating with their experience of food insecurity, their quotes highlight experiences that may potentially underlie the statistical correlations of food insecurity with overeating during times of food access, and with higher body mass index (Florez et al., 2015), which may lead to increased anxiety and negative emotions towards food (Stinson et al., 2018). Overeating may also serve as a coping mechanism for managing chronic and acute stress (Adam & Epel, 2007), particularly with the consumption of energy-dense "comfort foods," which has also been associated with weight gain (Tryon et al., 2015). A fourth dietary shift involved eating healthier due to a change in available food. These lived experiences shed light on statistical analyses of surveys with L.A. County residents, which showed that food insecure individuals reported both unhealthy and healthy shifts in eating behaviors during the pandemic (Miller et al., 2021).

The second of the study's key findings was that buying food became more effortful and financially challenging during the pandemic. Interviewees reported making difficult decisions about what food to buy, where to buy it, and how to pay for it, due to decreased budgets, increased prices, and pandemic closures. As in our interviews, a recent survey with residents of rural South Carolina also found that food insecurity during the COVID-19 pandemic was associated with making trade-offs between buying enough food and paying other bills, for medical care, utilities, childcare, rent, and other household expenses – especially among those who experienced more severe food insecurity (Luo et al., 2022). These findings underscore that food insecurity may be experienced in combination with other stressful financial challenges, and exacerbate disparities in health and wellbeing (Appelhans, 2023).

The third key finding of the study was that SNAP benefits were helpful but also caused stress because they were sometimes insufficient, inconsistent, and didn't cover all retailers or food items. These experiences are in line with arguments that SNAP benefits are generally based on unrealistic expectations of what people eat, and how much money they need to afford a healthy diet (Carlson et al., 2019). Moreover, challenges with inconsistencies were exacerbated during the pandemic, according to information released by the California Department of Social Services (2022). In April 2020, Congress authorized funds that boosted SNAP allocations to the maximum allowable based on household size, but increases were only given to households that had not yet maximized their benefits (California Department of Social Services, 2022). In January 2021, Congress increased all SNAP allocations by an additional 15% through September 30, 2021, after which point the 15% boost expired (California Department of Social Services, 2022). In April 2021, the USDA re-instated a boost of at least $95 a month for the poorest families (California Department of Social Services, 2022). The Pandemic-EBT (electronic benefits transfer) program provided Californian families with children as much as $391 per school-aged child, with eligible households receiving up to six allotments of *P*-EBT benefits beginning in early 2020 and ending in September of 2023 (California Department of Social Services, 2022). In January of 2023, the USDA announced the end of expanded SNAP benefit allotments (USDA, 2023).

The fourth main finding of the study was that during the pandemic, interviewees had to rely on their social networks, food banks or pantries, churches, and schools to meet their food needs and cope with food insecurity. Even SNAP recipients found themselves needing to access other systems of support to feed themselves and their families. Nevertheless, our interviews also identified barriers towards utilizing food pantries and food banks. Our interviewees also expressed concerns about the food quality and social stigma related to food banks. They mentioned not "needing" help, which is perhaps also reflective of social stigma, and the common tendency to underestimate one's own need for assistance (Middleton et al., 2018; Payne et al., 2017; Wills, 1981). Some interviewees also said that they were unaware of food banks and other food assistance resources, providing insights into underlying statistics that suggest low-income neighborhoods in L.A. County are likely to be "food deserts" with low access to supermarkets as well as "food assistance deserts" with low access to food pantry, charitable or community food assistance programs (de la Haye et al., 2022b).

The fifth key finding of the study was that for some L.A. County residents, food insecurity worsened again in 2022. Some interviewees noted a resurgence in financial pressure at the time of data collection, despite a recovering economy, as the result of rapid surges in inflation that caused major price hikes in food and other household necessities (U.S. Bureau of Labor Statistics, 2022). Our qualitative findings highlight the lived experiences contributing to statistical trends seen in L.A. County survey data from the Understanding America Study (2022), which showed more than a 40% increase in food insecurity rates by December of 2022, compared to December 2021 (de la Haye, Livings, et al., 2023). National data from the Bureau of Labor Statistics (2022) indicated that during the second half of 2022, the cost of eating at home had increased by 12.5% as compared to the second half of 2021. Inflation may be particularly impactful for individuals living in locations with already high costs of living, like L.A. County (Diamond & Moretti, 2023). Overall, California is consistently among the top five U.S. states with the highest cost of living – and in the top three as of 2022 (MERIC, 2023).

Worryingly, this situation may be exacerbated by the USDA's announcement in January 2023 to end expanded SNAP benefit allotments (USDA, 2023). Considering rising inflation and the trade-offs people with food insecurity may make between paying for food and paying other bills, such a policy shift is likely to promote increased food insecurity, especially for the most vulnerable populations. Despite this, as of March of 2023, benefits were cut drastically for most families – creating a so-called "benefits cliff" or "hunger cliff" (Rosenbaum et al., 2023).

4.1. Limitations

While the present study offers important insights into L.A. County residents' experiences with food insecurity during the COVID-19 pandemic, it is not without limitations. One limitation is that our small sample may limit the generalizability of our findings to the larger population of food-insecure individuals and households in the county. However, it is important to note that the goal of qualitative research is to provide in-depth insights to understand individual experiences with complex phenomena rather than to quantify the prevalence of these experiences. Nevertheless, our findings suggest important recommendations for addressing the experiences of food insecurity in times of national crisis in L.A. County (Table 2).

5. Recommendations

Addressing food insecurity is of critical importance for improving physical health and mental well-being on an individual level, as well as for social-economic stability and social equity on a societal level (Gallegos et al., 2021). Each of our findings informs specific policy recommendations (Table 2).

Our first recommendation aims to address finding 1, which showed that the pandemic prompted food insecurity as well as stressful shifts in eating behaviors compared to before the pandemic, with some interviewees eating much less, while others ate less nutritious food, or ate much more, while being stuck at home (Table 2). This finding suggests that efforts to address food insecurity should also address nutrition security, which involves ensuring that people have access to nutritious and

Table 2
Findings and recommendations.

#	Finding	Policy recommendation
1.	The pandemic prompted food insecurity as well as stressful shifts in eating behaviors compared to before the pandemic, with some eating much less food, some eating less nutritious food, and some eating much more, while being stuck at home	Address food insecurity and nutrition insecurity to support healthy eating
2.	Buying food became more effortful and financially challenging	Implement programs to improve overall finances and well-being, in addition to food assistance programs
3.	Government food assistance (SNAP) was important for reducing food insecurity, but was sometimes insufficient, inconsistent, and didn't cover all retailers or food items	Increase amount, transparency, predictability, approved retailers and food items
4.	Interviewees had to rely on their social networks, food banks or pantries, churches, and schools to meet their food needs and cope with food insecurity, but some faced barriers in doing so	Invest in programs to increase social connectivity and community-based food assistance programs, while reducing barriers to seeking access
5.	For some, food insecurity was worse in late 2022, almost two years after the pandemic started	Implement state-level top-offs to SNAP benefits

healthy foods (Mozaffarian et al., 2021; Shetty, 2009). A programmatic example is found in California's Market Match Program, which incentivizes the purchase of fruits and vegetables at local farmers' markets with a 1:1 match of SNAP benefits, typically up to $40 (California Dept. Of Food & Agriculture, 2022; VanLiew, 2021). Another potential policy solution that would address both food and nutrition security is the expansion of prescription nutrition and medically tailored meals programs (Downer et al., 2020). Studies have shown that such programs have the potential to significantly increase the consumption of health-promoting foods (Cafer et al., 2023; Cohen et al., 2023; Hager & Mozaffarian, 2020), which can in turn lead to better health outcomes, especially for medically vulnerable groups (Hager & Mozaffarian, 2020; Sato Imuro et al., 2023).

Our second recommendation aims to address finding 2, which suggested that buying food became more effortful and financially challenging during the pandemic (Table 2). People who live with financial precarity are often faced with stressful decisions about how to best allocate scarce resources (Mullainathan & Shafir, 2013; Shah et al., 2012), leading to potentially detrimental trade-offs among life necessities, like healthcare, and food (Luo et al., 2022; Moraes et al., 2021). To effectively address the root causes of food insecurity, policymakers should develop comprehensive social-safety net programs that improve people's overall financial situation and well-being (Schmidt et al., 2016). These programs could include income support measures such as a living wage and unemployment benefits, affordable housing initiatives, and accessible healthcare services – alongside programs that provide food assistance.

Our third recommendation aims to address finding 3, which suggested that government food assistance (SNAP) was important for reducing interviewees' food insecurity, but it was sometimes insufficient, inconsistent, and didn't cover all retailers or food items (Table 2). It has therefore been argued that more realistic benefit amounts are needed, such as in the USDA's Moderate Cost Food Plan instead of the USDA's Thrifty Food Plan, that SNAP eligibility should be expanded to income levels that put people at risk for food insecurity, and that there should be slower phase-out periods for benefits as SNAP recipients' incomes rise (Balasuriya et al., 2021; Gundersen et al., 2018). To alleviate the uncertainty associated with SNAP benefit level inconsistencies, we also recommend that policymakers increase the transparency and predictability of the benefit calculation process so that recipients have a better understanding of how their benefits are determined and can plan accordingly. We recommend expanding the number of approved SNAP retailers, by providing incentives for stores to accept SNAP benefits and by promoting the inclusion of alternative food spaces, such as farmers' markets and food cooperatives (Larimore, 2018). Furthermore, it would be beneficial to review and potentially expand the range of eligible food items purchasable under the SNAP program.

Our fourth recommendation aims to address finding 4, which highlights that interviewees had to rely on their social networks, as well as food banks or pantries, churches, and schools, but faced some barriers in doing so (Table 2). Both during the pandemic and in its aftermath, food banks and other community-based food assistance programs have been overwhelmed with unprecedented increases in demand (Conybeare, 2023; de la Haye et al., 2022b; L.A. Regional Food Bank, 2023). To address this increase and the vast disparities in access to food assistance in L.A. County, policymakers ought to invest more in community-based food assistance resources, like food banks, and programs led by schools and churches (Whitley, 2013). There is also an apparent need to address barriers to accessing food bank and other food assistance, including raising awareness and reducing stigma (Haynes Stein, 2023; Tran et al., 2022). Black and Latino populations in L.A. County, who experience a significant prevalence of food insecurity (de la Haye et al., 2022b, 2023a), often face stigma when accessing safety net resources, whether from the government or other sources (Peterson et al., 2022; Swan, 2020; Varela et al., 2023; Zekeri, 2007).

Our fifth recommendation aims to address finding 5, which highlights that for some, food insecurity was worse during the aftermath than at the peak of the COVID-19 pandemic (Table 2). Given the experience of drastically reduced benefit levels (USDA, 2023) and rising inflation (MERIC, 2022), the need to act is urgent. The benefit cuts that SNAP recipients experienced recently will likely lead to higher rates of food insecurity, particularly among households with children (Bronchetti et al., 2019; Ettinger de Cuba et al., 2019; Frank et al., 2010). At the state level, legislators should supplement the amount that SNAP beneficiaries receive monthly, as was proposed in the 2023–2024 Session of the California Legislature (SB-600, 2023). In the long-term, policymakers ought to consider making larger increases to SNAP benefits, indexing them to regional costs of living and inflation. An investment in SNAP benefits can promote long-term stability and resilience for vulnerable populations (Ettinger de Cuba et al., 2019).

6. Conclusion

In qualitative interviews with 30 L.A. County residents who had experienced food insecurity during the pandemic and its aftermath, we revealed the complex strategies and effort people expended to manage food challenges, and the stress and worry associated with this experience. While some of our findings were unique to the COVID-19 pandemic and its aftermath, others were consistent with what has previously been reported about the lived experience of food insecurity. By sharing a diverse range of lived experiences with food insecurity, our study adds to the literature that underscores the importance of addressing food insecurity to promote overall well-being (Ettinger de Cuba et al., 2019; Gallegos et al., 2021; Gundersen & Ziliak, 2015; Pak & Kim, 2020). Our recommendations (Table 2) focused on addressing the issues interviewees raised, so as to continue to address food insecurity in the aftermath of the COVID-19 pandemic, especially while inflation continues to impact L.A. County residents' ability to make ends meet.

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CRediT authorship contribution statement

Jose J. Scott: Writing – review & editing, Writing – original draft, Methodology, Formal analysis, Data curation, Conceptualization. **Wändi Bruine de Bruin:** Writing – review & editing, Writing – original draft, Supervision, Methodology, Formal analysis, Data curation, Conceptualization. **Lila Rabinovich:** Writing – review & editing, Methodology, Formal analysis, Data curation, Conceptualization. **Alison Frazzini:** Writing – review & editing, Conceptualization. **Kayla de la Haye:** Writing – review & editing, Writing – original draft, Supervision, Methodology, Funding acquisition, Conceptualization.

Declaration of competing interest

None to disclose.

Data availability

Interviewees gave informed verbal consent for quotes to be shared anonymously and without attribution. We only have IRB approval to share full transcripts with our team, the funder, and the USC IRB.

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Appendix A. Supplementary data

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