



Students' Perspectives on the Benefits and Challenges of Universal School Meals Related to Food Accessibility, Stigma, Participation, and Waste

Dania Orta-Aleman, PhD, MPH¹; Monica D. Zuercher, PhD¹; Kassandra A. Bacon, MPH¹; Carolyn Chelius, MS¹; Christina E. Hecht, PhD¹; Kenneth Hecht, JD¹; Lorrene D. Ritchie, PhD, RD¹; Juliana F.W. Cohen, ScD, ScM^{2,3}; Wendi Gosliner, DrPH, RD¹

ABSTRACT

Objective: To reveal students' experiences and perspectives related to Universal School Meals (USM) under the federal coronavirus disease 2019 waivers during school years 2021–22.

Design: Qualitative; 17 focus groups in June–July 2022.

Setting: Virtual; students from 9 California regions in public and charter schools.

Participants: 67 students (n = 31 in high school, n = 36 in middle school) from a racially and economically diverse sample.

Phenomenon of Interest: Students' perceived benefits and drawbacks of USM.

Analysis: Thematic analysis using an immersion-crystallization approach.

Results: Students appreciated USM for increasing school meals' accessibility, promoting food security by financially supporting families, reducing the stigma associated with school meals, simplifying the payment system, and enhancing school meals convenience. An increase in school meal participation was observed. However, concerns emerged regarding a perceived decline in food quality and quantity and increased food waste.

Conclusions and Implications: Universal School Meals showed promise in increasing access to meals, reducing food insecurity, stigma, and increasing participation. Addressing food quality, quantity, and waste concerns is critical for its sustained success. Policymakers need to advocate for the expansion and continuous refinement of USM, prioritizing stakeholder feedback. Ensuring adequate funding to balance meal quality and quantity while minimizing waste is essential for an adequate school meal policy.

Key Words: school, food insecurity, stigma, nutrition policy, lunch (*J Nutr Educ Behav.* 2024;56:599–610.)

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INTRODUCTION

The *National School Lunch Program* and the *School Breakfast Program* are essential to children's health in the US as they provide access to nutritious meals at low or no cost to approximately 29 million students

daily across the nation.¹ Evidence indicates that participation in these programs improves dietary intake and health, especially among children from families with low income.^{1–4} With children and adolescents spending considerable time at schools, where many consume up to half of

their daily energy intake, the school food environment has long been considered a key setting for population-based health interventions.^{5,6}

In response to the Healthy, Hunger-Free Kids Act of 2010, school meals were restructured to better align with the Dietary Guidelines for Americans, improving student dietary intake.^{4,7} Before the coronavirus disease 2019 (COVID-19) pandemic, participation rates in school meals were low (56% for school lunch and 21% for breakfast)⁸; this may be attributed to barriers, such as the stigma attached to receiving subsidized meals, increases in school meal prices, shame associated to unpaid debt, and administrative challenges.^{8–10} Universal School Meals (USM), also sometimes referred to as Universal Free School Meal programs, aim to optimize the nutrition,

¹Nutrition Policy Institute, University of California Agriculture and Natural Resources, Oakland, CA

²School of Nursing and Health Science, Merrimack College, North Andover, MA

³Department of Nutrition, Harvard T.H. Chan School of Public Health, Boston, MA

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Address for correspondence: Dania Orta-Aleman, PhD, MPH, Nutrition Policy Institute, University of California Agriculture and Natural Resources, 1111 Franklin St, 11th Fl, Oakland, CA 94607; E-mail: dorta@ucanr.edu

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health, and social benefits of school meals while overcoming participation barriers by offering school meals free of charge to all students in public schools, regardless of their household income.¹¹

During the COVID-19 pandemic, the US Department of Agriculture (USDA) granted waivers allowing schools nationwide to serve meals without charge to all students during the 2020–21 and 2021–22 school years (SYs) to address the suddenly exacerbated crisis of food insecurity among families with children.¹² This opportunity enabled schools to potentially reach more students with healthy food while reducing the operational challenges of assessing family income and the associated administrative costs.^{11,13} However, these federal waivers expired in June 2022. In response, some states have funded and implemented USM at the state level. California was the first to commit to funding a statewide USM program beyond the 2021–22 SY. The program aims to provide all public-school students in grades K–12 with 2 free nutritious meals daily, regardless of their income status, thereby promoting food security and equal access to healthy meals.¹⁴ Maine, Vermont, Colorado, Michigan, Minnesota, New Mexico, and Massachusetts have since enacted similar USM policies.¹⁵

Despite the growing interest in and momentum for USM, there has been limited investigation of its impacts and implications for students and families. Most research has focused on quantitative outcomes, with little delving into students' perceptions and experiences.^{16–18} Understanding student perspectives on USM is crucial because, as the program's primary beneficiaries, students can provide insights into how these programs affect their daily lives and the lives of their friends and families, including issues of meal accessibility and stigma. Qualitative research methods can provide rich and nuanced insights into students' lived experiences and opinions from diverse backgrounds and contexts. Such insights can be valuable for policymakers to understand the real-world effects of these programs beyond quantitative metrics and can

guide the development of more effective and tailored policies.

The primary aim of this qualitative study was to reveal the perceived benefits and drawbacks experienced by middle and high school students in California regarding the implementation of USM at their schools while the federal COVID-related waivers were in place. Our study contributes to the academic discourse on school meals and can serve as a resource for policymakers seeking to enhance the effectiveness and reach of USM programs.

METHODS

Participants, Recruitment, and Data Collection

We conducted 17 virtual focus groups with 67 students from 9 geographical regions of California to explore their experiences and perspectives related to the USM program provided at their schools during the SY 2021–22. We used a qualitative approach as we aimed to understand the students' lived experience of USM in their own words and contexts. We chose virtual focus groups as a data collection method because they allowed us to reach a diverse and representative sample of students across the state while facilitating interaction and discussion among them.

A professional research firm (Galloway Research Service) used a proprietary consumer panel database to recruit parents through purposive sampling to ensure diversity in terms of gender, race/ethnicity, grade level, language, geographical area, and Free or Reduced-Price Meal (FRPM) eligibility. The research firm uses census data to align its panels and data collection with the state population demographics. They initially contacted parents by email or SMS, inviting them to complete a survey and inquiring if their middle or high-school-age child would consider participating in a focus group. Students who lived in California, attended a public or charter middle or high school, lived in a household with fewer than 10 people, were comfortable speaking English or Spanish,

and had signed parent/caregiver consent were considered eligible and invited to participate.

Once students were deemed eligible, the professional research firm scheduled the students virtual sessions for them via Zoom (version 5.9.1, Zoom Video Communications, 2022). The research team organized the focus groups by grouping students based on FRPM eligibility and school level (middle or high school) to ensure diversity. The research team was guided by 2 objectives in organizing the focus groups. First, clustering students by FRPM eligibility aimed to create an environment in which students would share experiences related to school meals more openly. We hypothesized that students would feel more comfortable discussing their experiences with school meals among peers who share similar socioeconomic backgrounds. Second, this grouping by FRPM eligibility was done to capture diverse perspectives based on economic backgrounds, as FRPM eligibility significantly influences students' participation in and experiences with school meals.⁸

Furthermore, students were also grouped based on their school level (middle school and high school), as experiences and viewpoints regarding school meals can vary between these 2 educational stages.⁸ This separation was intended to ensure that the unique challenges and benefits perceived by students at different educational levels would be accurately represented in our findings. Given the complex nature of the topics addressed in our study, such as stigma and food accessibility, we determined that middle and high school students would be more capable of engaging in the detailed discussions necessary for our focus group methodology. Therefore, we did not include elementary school students in our sample, as the virtual focus group format and the depth of conversation required were judged to be beyond the developmental stage of younger children.¹⁹

The professional research firm conducted 9 focus groups with middle school and 8 focus groups with high school students. For middle school, 3 focus groups were conducted with

middle school students eligible for FRPM (defined as household income below 185% of the federal poverty line [FPL] for their household size), 3 focus groups with middle school students with family income near but just above the cutoff for FRPM (defined as incomes between 185%–300% of the FPL), and 3 groups with middle school students whose families were well above eligibility for FRPM (above 300% FPL). The selection for the 8 focus groups with high school students mirrored this stratification to ensure representation by FRPM eligibility. Two focus groups were conducted in Spanish language. The average number of participants per focus group was 3.9, ranging from 3 to 4. Mini focus groups of 3 to 4 students were employed to encourage open dialogue and promote a comfortable, nonintimidating environment in an adult-led discussion.²⁰ By maintaining a small group size, we aimed to ensure that each child felt heard without the pressure of speaking in front of too many peers, particularly in a virtual format where larger numbers can deter active participation.

Students' caregivers provided signed informed consent before the focus group sessions, and students provided oral assent. Students received a gift card valued at \$100 for their participation. The research team followed ethical principles throughout the study, prioritizing students' autonomy, privacy, and confidentiality. The University of California, Davis Institutional Review Board reviewed the study (protocol code IRB-FY21-22-19) and determined it exempt.

The interviewers conducted the focus groups in June and July, 2022, using a virtual meeting room and a semistructured interview guide with open-ended questions (see [Supplementary Data](#)). The questions in the guide covered topics such as school meal participation, reasons for eating school meals, perceptions of school meals, and the effects of USM policies. The research team developed the interview guide informed by key areas of interest identified by a previous literature review¹⁶ and with input from members of a Community Advisory Board. This Board comprised research, policy, and

community-based program experts, including members from the California Department of Education, anti-hunger organizations, and California food service directors. All interviewers underwent comprehensive training in in-depth interview data collection techniques. Before conducting the focus groups, our team conducted a virtual training session with the interviewers, during which they received specific guidance on using the interview guide effectively. This session included explanations of the question's intent and techniques for maintaining neutrality while probing for deeper insights. To ensure the quality and consistency of data collection, 2 research team members reviewed the first 5 focus groups recordings, assessed the interviewers' adherence to the interview guide, and provided feedback to the interviewers on their question-asking techniques and the effectiveness of their probing methods. The professional research firm recorded the focus groups, transcribed them verbatim, and translated if not conducted in English.

Data Analysis

The research team followed an immersion-crystallization approach²¹ to conduct thematic analysis²² of the data related to students' perspectives on USM. This approach involved alternating between deep engagement with the data (immersion) and reflection on the emerging patterns or themes (crystallization).²³ We used ATLAS.Ti (Scientific Software Development GmbH, V23.2) to manage, code, and organize the data.

After study members immersed themselves in the data by reading through the transcripts thoroughly, 2 study team members developed an initial codebook based on both deductive codes derived from the research questions and inductive codes generated from the data. The research team looked for evidence that supported or challenged our initial interpretation of the codes, and we further refined the codebook through subsequent discussions among members of the research team and through a reflexivity

process, acknowledging and discussing how our own biases, judgments, and experiences influenced the development of the codebook. With the updated codebooks, 2 team members then coded all transcripts with 84% intercoder reliability (target intercoder reliability was 80%). The team met and resolved any discrepancies through iterative discussion and revision until a consensus was reached. We then synthesized the codes into themes and subthemes using constant comparison and peer-debriefing to refine and validate our interpretations until we reached analytical saturation and no new themes emerged. To ensure the trustworthiness of our data analysis, we used triangulation by comparing the data from students from different income levels and school grades to identify convergent and divergent patterns. The research team kept an audit trail of our data analysis process to maintain dependability.

RESULTS

Sixty-seven students participated in 17 focus groups. Sociodemographic characteristics are shown in [Table 1](#). Half of the participants (50.7%) identified as Hispanic, 28.4% as non-Hispanic White, 7.5% as non-Hispanic Black, and 13.4% as Asian. The composition of our study closely aligns with California's 2021–22 enrollment data by ethnicity in public schools, where 55.9% of students identified as Hispanic, 21.1% as non-Hispanic White, 5.1% as non-Hispanic Black, and 9.5% as Asian. In our sample, approximately half of the students (53.7%) were enrolled in high school, with the remaining 46.3% in middle school. Most students participated in the school lunch at least 1 day per week (79.1%) and the school breakfast (59.7%). Approximately a third of the students (28.4%) reported speaking Spanish at home. An even distribution existed across middle and high school regarding FRPM eligibility. The main themes and subthemes are reported in [Table 2](#).

Table 1. Demographic Characteristics of Middle and High School Student Participants in California Focus Groups (n = 67)

Characteristic	Mean (SD) or n (%)	Middle School Students (n = 36)	High School Students (n = 31)
Female	25 (37.3)	15 (41.7)	10 (32.3)
Race/ethnicity ^a			
Hispanic	34 (50.7)	18 (50.0)	16 (51.6)
NH White	19 (28.4)	11 (30.6)	8 (25.8)
NH Black	5 (7.5)	3 (8.3)	2 (6.5)
NH Asian	9 (13.4)	4 (11.1)	5 (16.1)
Middle school	31 (46.2)	36 (100)	—
High school	36 (53.7)	—	31 (100)
Household size	4.1 (1.4)	3.9 (1.3)	4.4 (1.4)
Speaks Spanish at home	19 (28.4)	9 (25.0)	10 (32.3)
School lunch participation	53 (79.1)	25 (69.4)	28 (90.3)
School breakfast participation	40 (59.7)	17 (47.2)	23 (74.2)
FRPM eligibility			
FRPM	24 (35.2)	12 (33.3)	12 (38.7)
Near FRPM ^b	19 (28.4)	12 (33.3)	7 (22.6)
Higher income ^c	24 (35.2)	12 (33.3)	12 (38.7)

FRPM indicates Free and Reduced-Price Meal eligible (household income <185% of federal poverty line); NH, non-Hispanic.
^aRace or ethnicity was self-reported by students from a list including White or Caucasian, Black or African American, Hispanic or Latinx, Asian or Asian-American, American Indian or Alaska Native, Hawaiian or Pacific Islander, Other (specify); ^bNear FRPM: Household income between 185%–300% of the federal poverty line; ^cHigher income: Household income above 300% federal poverty line.

Students express widespread gratitude for USM, appreciating increased access to meals and endorsing the program’s continuation.

Perceived Benefits of USM Reported by Students

Theme 1. Overall gratitude and appreciation for USM. We identified an overall sentiment of gratitude and appreciation for the free breakfast and lunch at school, expressed using words like “thankful,” “grateful,” “helpful,” “good,” and “nice” to describe the students’ feelings and attitudes toward the free meals. For example, 1 middle school student expressed: “I feel grateful. It’s nice that it’s free and I get the chance to try something.” Another middle school student highlighted the effect of the program on their peers, recounting past interactions,

When you used to pay [for meals], a lot of kids didn’t get food because they, the kids used to tell me: “I don’t have enough money.

Can you please spare some?” And of course, I spare all these like \$2. And so now it’s free. Now, like, I’m thinking that they’re grateful.

A few students also expressed their gratitude and appreciation by supporting the continuation of the free meals policy or praising it, as 1 high school student said, “That [school meals free for all students] is the best thing about school lunch. I feel like why wouldn’t you get it if it’s free?” Another high school student expressed: “I think it’s a good thing that they’re supplying free lunches and breakfasts... it definitely is a good thing that they should continue.”

From the students’ perspective, USM promote food security, reduce stigma, simplify payments, and increase participation.

Theme 2. USM increased students’ access to school meals and promoted food security through indirect financial support for families. Many students perceived USM as a beneficial policy

that increased access to school meals and improved food security by providing indirect financial relief for their families. This theme was expressed by students from different income levels, school types, and regions, indicating a widespread recognition of the value of USM. Below, each of these perceived benefits of USM is described in more detail.

Theme 2a. USM increased access to school meals. Students appreciated that USM made meals available to students who, regardless of official eligibility for FRPM, may not have previously been able to afford them. They highlighted the program’s role in ensuring that no student had to go hungry or skip meals regardless of their ability to pay for or bring food from home. For example, 1 high school student said that free school meals were good because “no one has to starve if they can’t pay the money for school food.” This policy particularly benefited students who could not afford to pay for school meals, reducing the stress related to payment. One high school student described the contrast for students who previously had to pay for meals: “Then kids wouldn’t eat lunch because they had to pay for it.” The

Table 2. Themes, Subthemes, and Example Quotes From Students on Perceived Benefits and Drawbacks of USM.

Theme	Subtheme	Description	Example Quotes
Sentiment			
1. Overall gratitude and appreciation for USM.		Some students express that they feel grateful that the school lunch is free and want the program to continue.	<p>"I do feel a little grateful that the lunch is free and that is just really helpful I know for a lot of students." Middle school student</p> <p>"I think it was good. I think they should keep doing it." High school student</p> <p>"I think it's very, very helpful and yeah, it's good." High school student</p>
Perceived Benefits of USM Reported By Students			
2. USM increased students' access to school meals and promoted food security through indirect financial support for families.	USM increased access to school meals	USM increased students' access to healthy meals at school, regardless of their ability to pay or bring food from home.	<p>"It was more accessible for people who can't afford to pay for school lunch." High school student</p> <p>"I think it's good for the people who don't have enough money to buy stuff at the grocery store and make it and bring it to school." Middle school student</p>
	USM promoted food security through indirect financial support for families	The positive impact of the program on food security and providing support for families who struggle to pay for food.	<p>"I think it helps with parents if they can't afford to feed their children." High school student</p> <p>"I think that getting food at school is at a periphery is one of the cornerstones of education. I think that it should be prolonged and still offered for free. I don't think that a lot of students abuse it or exploit it and it just helps out low-income households." High school student</p> <p>"I think it's a good thing that they're supplying free lunches and breakfasts because a lot of people, especially through COVID had a lot of family issues. So I think it definitely is a good thing that they should continue on." High school student</p> <p>"It's good for people with low income or definitely just parents in general. It's nice that the food's free." High school student</p> <p>"I would say the free lunches and all that would be good. I think it's a beneficial to the parents and that really can't afford the lunches." High school student</p>

(continued)

Table 2. (Continued)

Theme	Subtheme	Description	Example Quotes
3. USM reduced stigma and embarrassment for students who received FRPM or ate school meals		Students report the positive impact of USM on reducing stigma of students who eat school meals, especially those eligible for FRPM.	<p>"I like it because there's no stress for anyone about not having enough money. And everyone just knows that they can get food throughout the day." Middle school student</p> <p>"I wouldn't say like shameful, but it's less like less of a big deal, because before, when kids did have to pay, it would be kind of embarrassing, because it was like, oh you're poor, you don't have any money, but now that it's like free to everybody, then nobody can tell." Middle school student</p> <p>"There's always that one feeling where if you're doing something and you see other people doing it, you don't feel as bad. A lot of people grab lunch now, so it doesn't really matter for anyone else." Middle school student</p>
4. USM, under USDA waivers, simplified the payment system and enhanced the convenience of school meals.	USM simplified payment system and school debt	USM simplified the payment and accounting system for school meals.	<p>"I think, well, it also saves time. You get more time to eat because then you don't have to check out. You could just grab it and go." Middle school student</p> <p>"We don't type anymore but they required us to... now we have this barcode that we show to the lunch ladies. But it's a little bit quicker because you just pull up your phone with a photo of it, the barcode and it scans automatically the number." High school student</p> <p>"I think it's a good change (continue offering free meals to all students) because we don't pay for this bad food... and then when they graduate, they have this massive debt of a year. It's kind of horrible of the school to do that." High school student</p>
	Increased convenience and reduced worry for students	USM reduced hassle and worry for students who did not have to pay or bring money for school meals.	<p>"Or even if you forget money, you don't have to pay money because you don't need money in the first place, so that's really helpful." High school student</p> <p>"Yeah. It makes things more convenient. It helps me save my money. It makes it seem much easier to get." High school student</p> <p>"For me, it's nice because it's like, if there's one day that I suddenly wanted to get school lunch, I don't have to have money on me. I don't have to plan for it. I could just do it if I want it." High school student</p>

(continued)

Table 2. (Continued)

Theme	Subtheme	Description	Example Quotes
5. USM led to a perceived increase in participation in school meals.		Students noticed or reported an increase in the number of students who ate school meals after they became free for all.	<p>"I think a lot more people, at my school at least, eat it. My friends did it more because it was just like, oh, okay, well, if it's free, then we don't really have to worry about paying for it every day, because that's another thing with school lunch." Middle school student</p> <p>"Almost everyone at my school eats a school lunch now, because it's free now, and not like you have to pay for it." Middle school student</p> <p>"It makes it seem more appealing, I guess, because I'm not spending money on it." High school student</p>
Perceived Drawbacks of USM Reported by Students			
6. Perceived reduction in food quality and quantity		The impact of USM on the quantity and quality of the food offered to students.	<p>"I feel like now that lunches are free, the quality's definitely gotten worse, but that's never stopped me from still getting lunch regularly." Middle school student</p> <p>"I like that I don't have to pay anything for it, but then again, it does bring down the quality." High school student</p>
7. Perceived potential for food waste		Some students are concerned that free school meals will increase food wastage.	<p>"It's good because of the fact that people without access to food can just get it, but it's also bad because some people just get it and waste it." Middle school student</p> <p>"A lot of students eat it now. A lot of students eat it now because it's free. But also, they don't mind just throwing it, if they don't like it." High school student</p>

FRPM indicates Free or Reduced-Price Meal; USDA, US Department of Agriculture; USM, Universal School Meals.

program increased their access to breakfast as well as lunch. For example, 1 high school student said, "Parents have different hours than when school starts, so if you get there too early, at least you have breakfast to eat. It's really good that you don't have to pay for it." This shows that students integrate access to meals into their families' daily routines, accommodating varying family schedules that often revolve around parental work hours rather than school schedules.

Theme 2b. USM promoted food security through indirect financial support for families. This theme explores the intertwined benefits of the USM program in enhancing food security and providing indirect financial relief for families. Through USM, students get consistent access to nutritious meals, directly addressing food security concerns, particularly for students whose families struggle financially but do not qualify for free school meals and for students who are eligible for FRPM but choose not to eat them because of stigma. Simultaneously, this program alleviates financial burdens for families by eliminating the cost of school meals and the need for families to shop for and prepare breakfast and lunch. This aspect of financial relief was especially critical during the economic challenges posed by the COVID-19 pandemic. This dual impact of USM was evident in students' expressions of empathy with peers and the recognition of the program's importance.

Students expressed that USM was a way to support families experiencing food insecurity, especially during the COVID-19 pandemic. They expressed empathy and recognized the need for the program's continuation, given that some of their peers or families struggle to afford or access enough food and that USM is a way to ensure that they do not go hungry or skip meals. As 1 high school student said, "I feel it should stay that way because there's a lot of people from where I'm from that's their only meal and if they're forced to pay, then that's getting rid of their only meal."

Additionally, some students expressed a strong belief in the school's responsibility to provide free meals, especially because attendance is

legally required. This belief is rooted not only in their understanding of school obligations but also in their experiences and perceptions of the USM program. The students view USM as a critical step toward fulfilling what they consider a fundamental duty of the educational system. This perspective was particularly emphasized during the COVID-19 pandemic when many families experienced heightened financial challenges. As 1 high school student articulated,

I think it's really important and good that we're offering free meals and lunch, especially with COVID affecting so many families and lower-income families, it should have been offered free sooner because we are legally required to go to school. So the fact we're forced to go, but people aren't often accommodated in the process, COVID kind of helps to show how much worse it can get. So, I think it is very important that we have free meals offered and I think we should continue to do so as long as possible.

By directly providing meals to students, the program indirectly relieves financial pressures on families, who could now save money otherwise spent on school meals or food to prepare lunch at home. For example, a high school student said, "It helps out parents. They can't afford it or just every single day they had to give their child money. It helps out the parents a lot." Some students also noted that USM eased parents' worry about paying for food, as 1 middle school student stated: "Being free, I think it's a benefit... it helps a lot of parents too, rather than just the kids, not having to worry about paying for food."

Theme 3. USM reduced stigma and embarrassment for students who received FRPM or ate school meals. Many students expressed that USM was a good policy because it reduced the stigma and embarrassment that some students felt for receiving FRPM or eating school meals. They noted that before USM, some students might have felt judged or labeled as low income for getting FRPM or for having to enter a code or scan a card to get their meals. For

example, 1 high school student shared, "When I was a freshman, I was the only one in my friend groups that got the school lunches. And that definitely made me feel a little bad, [...] it was a little embarrassing."

With USM, these feelings of stigma and embarrassment were ameliorated, as all students could access free meals regardless of their family income or eligibility. Students felt that USM created a sense of equality and inclusion among students who could eat school meals without experiencing discrimination. Students who may have felt embarrassed now felt more comfortable and confident eating school meals, as they did not have to pay or reveal their status to anyone. For example, a middle school student said,

Before, when [some] kids didn't have to pay, it would be kind of embarrassing, because it was like, oh you're poor, you don't have any money, but now that it's like free to everybody, then nobody can tell.

Similarly, another middle school student stated: "Some kids who had to have free lunches, they don't have to feel embarrassed about getting free lunches, because now everyone has free lunches. So, it just makes it kind of equal for everyone."

The reduced stigma also depended on the school context. A few students indicated they were not embarrassed about eating school lunch even before USM because most of their friends or classmates did so. They perceived eating school lunch as normal and thus did not experience judgments from others. For instance, 1 high school student said, "I've never felt embarrassed because a lot of my friends eat it as well."

Theme 4. USM, under USDA waivers, simplified the payment system and enhanced the convenience of school meals. After the implementation of the USM program under USDA waivers, students appreciated the simplified payment system and the elimination of school debt, which streamlined the process of getting school meals. Additionally, students highlighted the reduced hassle and worry associated with not needing to pay or bring money to school for

meals, emphasizing USM's role in alleviating concerns related to meal payments and debts. More details are outlined below.

Theme 4a. USM simplified payment system and school debt. Some students expressed that USM was a good policy because it simplified the complexities they faced with the traditional payment system for school meals, improving their meal experience. They noted that USM eliminated the need to collect money from students, keep track of their balances, or charge them for unpaid debt. For example, a high school student shared their relief related to the elimination of monetary transactions and school debt:

Honestly, I just can't imagine what benefit it had for them to try and take 10 cents from kids or a dollar from a different kid. That was just the most complicated thing... and the money would pile up and you couldn't graduate if you didn't pay 50 bucks for a semester's worth of bagged food. It was so messy and it's just so much easier and more reasonable now that it's completely free.

Additionally, students noted the improved efficiency in accessing meals because of waiving the need to enter a code or scan a card, which was particularly relevant to their daily experience. This is exemplified by a high school student's comment on the simplified process: "We don't need to put the code anymore, which I think it's because it's just free for everyone now."

Theme 4b. Increased convenience and reduced worry for students. Students reported that USM reduced the hassle and worry for students as did not have to pay or bring money for school meals. They felt that USM was a way to avoid the embarrassment or inconvenience of having to put their lunch back, borrow money from others, or go without food if they forgot or did not have enough money. For example, a middle school student said, "and it's just like less of a hassle to pay for it... Yeah, and it just, like, makes things like easier. Like, oh no, I forgot to bring like money or like I

don't have enough." Further, the free lunch allows them to eat lunch if they are hungry without the "worry about having money with them or having money in their account."

Theme 5. USM led to a perceived increase in participation in school meals. Participants noted that there seemed to be an increase in students eating school meals once they were free of charge for everyone, suggesting a potential rise in participation. As 1 middle school student pointed out,

I see a lot more kids walking around with lunch trays with food from the cafeteria. And so I think now a lot more students know they have the opportunity to get lunch because it's free and they don't have to worry about having money.

The perceived increased participation seemed to directly result from the increased accessibility, as described in Theme 1. For example, one high school student said, "I feel like more people tend to go eat it because it's free and it's just more accessible." Further, increased accessibility may make lunch more appealing for students. As one high school student described: "It makes it seem more appealing, I guess, because I'm not spending money on it."

Future efforts can focus on improving food waste and enhancing meal quality in schools to improve students' perceptions.

Perceived Drawbacks

Theme 6. Perceived reduction in food quality and quantity. Many students expressed some dissatisfaction with the lunch program, as it did not provide food that meets the quality they would like to see. For example, 1 high school student said, "I mean, I'm grateful that they make an attempt to try to feed us, but at the same time I'm frustrated and annoyed that the quality of food they give us is very low."

Some students pointed out that their perception of food quality had declined since the meals became free. For example, a middle school student stated: "the downside is that now that the lunch is free, it's definitely gotten worse and the quality has gotten worse." Some students also reported that there was not enough food for everyone, especially once meals were free for all students. They explained that food often ran out, and the cafeteria did not restock, leaving some students without meals. Some students also speculated that the reason for the decline in food quality and reduction in quantity was that the school had to cut costs or choose cheaper options to provide free meals for all students.

A few students suggested that the school could offer an option for students who wanted to pay for better quality food or that they could improve the quality of the free food if they wanted to continue with the policy. For example, a middle school student said,

I like the idea of the free lunch and the free snacks as well. But I think the school would make more money if they had an option, maybe at least an option to pay for food to get the better food, but the free is still good.

Theme 7. Perceived potential for food waste. A final theme that emerged was the concern that the USM policy could potentially increase food waste in school cafeterias. Some students expressed observing more students getting free meals but not eating them or throwing food away, either because they did not like the food or because they were required to take specific meal components, even though they did not intend to eat all their selections. For instance, a middle school student said, "People throw it away, but not because it's free but because they make you get the servings. They make you get 3 or 4 servings."

Some students also felt that they would be more likely to waste food if it was free than if they had to pay for it, as they would not feel as guilty or pressured to eat it. However, it was also mentioned that increased food waste might be a natural result of

increased participation, as 1 high school student phrased: "I don't think there's more [waste] now because it's free. I feel like it's more now because more people are getting it because it's free."

DISCUSSION

Our study offers a qualitative insight into middle and high school students' experiences with USM in California, facilitated by the federal COVID waivers that allowed public schools across the country to provide meals free of charge to all students. We found that students felt the program reduced stigma, supported food security, increased meal participation, made school meals feel more inclusive, reduced hassle, and simplified the payment system. Students appreciated the program; however, concerns emerged regarding meal quality, quantity, and food waste.

Consistent with prior research documenting the positive impacts of USM on food security, we found that the USM program under the federal COVID waivers increased students' access to school meals, which students associated with potential enhancements in food security.¹⁶ Our study adds to the existing literature by highlighting the students' voices and perspectives on how USM benefits them, their peers, and other families. Although direct measures of food security were not within the scope of this qualitative study, students recognized the value of USM as a way to ensure that no student had to go hungry regardless of their ability to pay or to bring food from home. They also acknowledged the program's role in supporting families experiencing food insecurity, especially during the COVID-19 pandemic. Moreover, they advocated for the continuation of USM to fulfill the school's responsibility to provide free meals to all students.

Additionally, our findings indicate that USM reduced stigma and embarrassment for students who received FRPM or ate school meals. These findings align with previous studies documenting the stigma associated with FRPM or school meals.^{24–26} A previous study found that USM was associated with reduced stigma as

perceived by a sample of California parents.²⁷ However, evaluations of USM have seldom assessed students' qualitative perceptions of stigma or the reduction of stigma as a reason for their increased participation. Our study fills this gap by showing that USM reduced the stigma associated with consuming school meals because students could no longer identify those who received FRPM.

These findings suggest that USM not only addresses the material needs of students and families but also decreases the stigma and barriers associated with paying for school meals or qualifying for FRPM. By doing so, USM has the potential to foster a more inclusive and equitable school environment, in which all students can enjoy the same benefits regardless of their socioeconomic status. This aligns with existing literature, highlighting the ability of programs like USM to contribute to a more inclusive and equitable school environment.²⁸

A third finding of our study is that by eliminating the need for monetary transactions such as collecting money, tracking balances, and charging for unpaid debts; USM simplified administrative processes and enhanced students' overall meal experience. Previous studies have similarly reported that USM simplified the payment system for school meals, both for the school staff and the students.¹¹ However, our study highlights the students' appreciation of the simplicity and convenience of USM. This is a significant finding, given the pressure schools face to manage limited time effectively. Eliminating monetary transactions and unpaid debt might also contribute to students' well-being by reducing stress and stigma related to meal payments.

Furthermore, the administrative efficiency of a simplified payment system can potentially enhance students' participation and satisfaction by reducing waiting time. It is important to acknowledge that this benefit was most likely the result of the COVID-19 waivers that allowed schools to serve meals without the standard meal tracking requirements. However, with the expiration of these waivers, some states have

continued USM but reverted to traditional tracking methods like card swiping to secure federal reimbursement, potentially diminishing these administrative benefits. Additionally, our results indicate that eliminating payment through USM increased the appeal of school meals, making them more attractive and accessible. This flexibility allowed for spontaneous meal participation, aligning with diverse student schedules and preferences, potentially improving engagement and satisfaction with the meal program.

Given the improved accessibility, the reduced stigma, and the enhanced convenience, it is unsurprising that USM led to increased participation in school meals. This finding is consistent with previous studies reporting a positive association between USM and school meal participation rates.¹⁶ However, our study highlights the students' observations of how USM increased participation, noting that USM increased accessibility among those who may not have been able to afford them. This indicates that the cost or the system that associated family income with meal eligibility might have been a barrier to participation in the past, which may warrant further research to fully understand the role of cost in student participation in school meal programs.

Despite its successes, students revealed concerns about the quality and quantity of meals offered under the USM program. These concerns align with previous studies indicating low student satisfaction with the school meal quality and quantity.^{3,8,29,30} A previous study of USM in California showed that perceptions of school meals can influence student participation.³¹ However, in our study, students perceive a decline in meal quality after USM's implementation, suggesting a potential link between the policy and these perceptions. Students expressed frustration over what they perceived as lower quality meals, with some speculating that this might be because of cost-cutting measures to accommodate the free meal program.

This perceived decline in meal quality may be linked to budget constraints and the need for further investments to meet the increased

demand for free meals.^{11,13} Moreover, it is important to consider that our data collection occurred during COVID-19, characterized by significant supply chain disruptions, staffing shortages, and increased reliance on prepackaged food to minimize virus transmission risks.¹¹ These unprecedented challenges likely exacerbated the quality and quantity issues during this period.¹¹ Still, if these issues persist, it is critical to address them through strategic planning and carefully balancing priorities to meet students' nutritional needs and preferences.

Lastly, students expressed concern about food waste, an issue that has become increasingly important in light of climate change and its related impacts.³² The perception of increased waste may be because of higher participation rates, emphasizing the importance of encouraging responsible food consumption. It is important to note that during COVID-19, a waiver allowed flexibility in the Offer vs Serve option, allowing schools to provide complete meals without adhering to the standard Offer vs Serve requirements that typically permit high school students to decline certain meal components.³³ This temporary change, aimed at ensuring access to meals during the pandemic, could have influenced students' perceptions of increased waste. Additionally, the pandemic-induced shift toward using individually wrapped and prepackaged foods as a safety measure might have further contributed to this increase in food and packaging waste.¹¹

Under USM, with the reinstatement of standard Offer vs Serve practices, high school students typically have more flexibility in choosing their meal components, potentially impacting both food waste and student satisfaction. Under the current Offer vs Serve, students must be offered 5 meal components during lunch (vegetables, fruits, grains, meat/meat alternatives, and milk).³⁴ To qualify for reimbursement, students must select at least 3 of the 5 required food components, with one being at least half a cup of fruit or vegetable.^{34,35} Our findings suggest

that allowing students to choose their preferred meal components could lead to reduced food waste. However, other practices, such as providing at least 30 minutes for lunch periods and offering recess before lunch, have been recommended as effective strategies for decreasing food waste.³⁶

Limitations of the study include the data being collected when some of the effects of COVID-19, such as supply chain disruptions, may have affected the implementation of USM and, in turn, the students' perceptions of school meals. Additionally, because the study was conducted in California, the findings may not be generalizable to USM in other states. However, the study's strengths include the use of a relatively large, diverse sample in race/ethnicity, grade level, language, geographical area, and FRPM eligibility of middle and high school students of 9 geographical regions of California, which provided rich and nuanced insights into the students' lived experiences and opinions.

IMPLICATIONS FOR RESEARCH AND PRACTICE

The findings suggest that USM was well-received by students, addressing food insecurity, stigma, administrative inefficiency, and promoting participation in school meals among middle and high school students. Increased participation in school meals, as corroborated by existing literature, is associated with positive outcomes in students' health, nutrition, and academic performance.^{16,37} Furthermore, reducing stigma may have led to increased participation by creating a positive reinforcing cycle as school meal consumption becomes the norm among students.

Although the benefits of USM are clear, some students also voice concerns regarding the quality and quantity of meals, as well as an increase in food waste. These issues highlight areas for future exploration, particularly to understand the specific factors influencing meal quality and quantity under USM. Research in this area might provide insights into the resources involved and practical

strategies for meal planning that ensure meals meet nutritional standards and align with student expectations without exacerbating food waste. Future research can also investigate whether food waste is affected by the implementation of USM under normal, non-COVID-19 conditions.

Future research could also explore the effects of USM on student well-being across various states and educational levels, including younger students in elementary schools, to assess the consistency of these benefits in diverse settings. Long-term effects of USM outside the unique context of the COVID-19 pandemic could also be assessed to determine the program's sustainability and address any persistent challenges under normal conditions.

In light of our findings, we suggest that public health practitioners and policymakers can use the experiences and perceptions of school students regarding USM to strengthen the evidence base supporting the continued implementation and expansion of USM in more schools and states. Moreover, further assessing policies related to meal selection and portion sizes could lead to insights about ways to reduce food waste and increase student satisfaction.

In addition, the data provides support for policymakers to expand and continue to refine USM, prioritizing stakeholders' feedback. Such an approach could contribute to a more inclusive school meal program.

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SUPPLEMENTARY DATA

Supplementary data related to this article can be found at <https://doi.org/10.1016/j.jneb.2024.04.011>.

REFERENCES

1. USDA Food and Nutrition Service. Child Nutrition Tables. National Level Annual Summary Tables: FY 1969–2023. National School Lunch – Participation and Meals Served. <https://www.fns.usda.gov/sites/default/files/resource-files/sllsummar-5.pdf>. Accessed May 21, 2024.

2. Au LE, Gurzo K, Gosliner W, Webb KL, Crawford PB, Ritchie LD. Eating school meals daily is associated with healthier dietary intakes: the healthy communities study. *J Acad Nutr Diet*. 2018;118:1474–1481.e1.
3. Micha R, Karageorgou D, Bakogianni I, et al. Effectiveness of school food environment policies on children's dietary behaviors: a systematic review and meta-analysis. *PLoS One*. 2018;13:e0194555.
4. Mansfield JL, Savaiano DA. Effect of school wellness policies and the healthy, hunger-free Kids act on food-consumption behaviors of students, 2006–2016: a systematic review. *Nutr Rev*. 2017;75:533–552.
5. World Health Organization and the United Nations Educational, Scientific and Cultural Organization. Making every school a health-promoting school – global standards and indicators. <https://www.who.int/publications/i/item/9789240025059>. Accessed August 2, 2023.
6. Cullen KW, Chen TA. The contribution of the USDA school breakfast and lunch program meals to student daily dietary intake. *Prev Med Rep*. 2017;5:82–85.
7. Liu J, Micha R, Li Y, Mozaffarian D. Trends in food sources and diet quality among US children and adults, 2003–2018. *JAMA Netw Open*. 2021;4:e215262.
8. USDA Food and Nutrition Service. School Nutrition and Meal Cost Study Final Report Volume 4: Student Participation, Satisfaction, Plate Waste, and Dietary Intakes. USDA; 2019. <https://www.fns.usda.gov/sites/default/files/resource-files/SNMCS-Volume4.pdf>. Accessed August 14, 2023.
9. Lopez-Neyman SM, Warren CA. Barriers and advantages to student participation in the school breakfast program based on the social ecological model: a review of the literature. *J Child Nutr Manag*. 2016;40:1–13.
10. Fleischhacker S, Campbell E. Ensuring equitable access to school meals. *J Acad Nutr Diet*. 2020;120:893–897.
11. Zuercher MD, Cohen JFW, Hecht CE, Hecht K, Ritchie LD, Gosliner W. Providing school meals to all students free of charge during the COVID-19 pandemic and beyond: challenges and benefits reported by school foodservice professionals in California. *Nutrients*. 2022;14:3855.

12. US Department of Agriculture Food and Nutrition Service. Nationwide waiver to allow the seamless summer option through school year 2021–2022. <https://www.fns.usda.gov/sites/default/files/resource-files/covid-19-child-nutrition-response-85.pdf>. Accessed May 21, 2024.
13. Cohen JFW, Polacsek M, Hecht CE, et al. Implementation of universal school meals during COVID-19 and beyond: challenges and benefits for school meals programs in Maine. *Nutrients*. 2022;14:4031.
14. California Department of Education. School Nutrition. California Universal Meals. <https://www.cde.ca.gov/ls/nu/sn/cauniversalmeals.asp>. Accessed August 31, 2023.
15. Food Research and Action Center. Raise your hand for healthy school meals for all. <https://frac.org/healthy-school-meals-for-all>. Accessed August 16, 2023.
16. Cohen JFW, Hecht AA, McLoughlin GM, Turner L, Schwartz MB. Universal school meals and associations with student participation, attendance, academic performance, diet quality, food security, and body mass index: a systematic review. *Nutrients*. 2021;13:911.
17. Bailey-Davis L, Virus A, McCoy TA, Wojtanowski A, Vander Veur SS, Foster GD. Middle school student and parent perceptions of government-sponsored free school breakfast and consumption: a qualitative inquiry in an urban setting. *J Acad Nutr Diet*. 2013;113:251–257.
18. Payán DD, Sloane DC, Illum J, Farris T, Lewis LB. Perceived barriers and facilitators to healthy eating and school lunch meals among adolescents: a qualitative study. *Am J Health Behav*. 2017;41:661–669.
19. Patel ZS, Jensen SE, Lai JS. Considerations for conducting qualitative research with pediatric patients for the purpose of PRO development. *Qual Life Res*. 2016;25:2193–2199.
20. Krueger RA, Casey MA. *Focus Groups: A Practical Guide for Applied Research*. 5th ed. Sage Publications; 2014.
21. Borkan JM. Immersion–crystallization: a valuable analytic tool for healthcare research. *Fam Pract*. 2022;39:785–789.
22. Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol*. 2006;3:77–101.
23. Miller WL, Crabtree BF. Qualitative analysis: how to begin making sense. *Fam Pract Res J*. 1994;14:289–297.
24. Connell CL, Lofton KL, Yadrack K, Rehner TA. Children's experiences of food insecurity can assist in understanding its effect on their well-being. *J Nutr*. 2005;135:1683–1690.
25. Burris M, Bradley S, Rykiel K, Himmelgreen D. Teen food insecurity: finding solutions through the voices of teens. *Hum Organ*. 2020;79:13–23.
26. Bhatia R, Jones P, Reicker Z. Competitive foods, discrimination, and participation in the national school lunch program. *Am J Public Health*. 2011;101:1380–1386.
27. Zuercher MD, Cohen JFW, Ohri-Vachaspati P, et al. Parent perceptions of school meals and how perceptions differ by race and ethnicity. *Health Aff Sch*. 2024;2:qaxd092.
28. Taylor J, Garnett B, Horton MA, Farineau G. Universal free school meal programs in Vermont show multi-domain benefits. *J Hunger Environ Nutr*. 2020;15:753–766.
29. Hearst MO, Shanafelt A, Wang Q, Leduc R, Nanney MS. Barriers, benefits, and behaviors related to breakfast consumption among rural adolescents. *J Sch Health*. 2016;86:187–194.
30. Asada Y, Hughes AG, Read M, Schwartz MB, Chiqui JF. High school students' recommendations to improve school food environments: insights from a critical stakeholder group. *J Sch Health*. 2017;87:842–849.
31. Zuercher MD, Cohen JFW, Hecht CA, et al. Parent perceptions of school meals influence student participation in school meal programs. *J Nutr Educ Behav*. 2024;56:230–241.
32. Garnett T. Where are the best opportunities for reducing greenhouse gas emissions in the food system (including the food chain)? *Food Policy*. 2011;36:S23–S32.
33. USDA Food and Nutrition Service. Nationwide waiver to allow offer versus serve flexibility for senior high schools in school year 2021–2022. <https://www.fns.usda.gov/sites/default/files/resource-files/covid-19-child-nutrition-response-92.pdf>. Accessed May 21, 2024.
34. USDA Food and Nutrition Service. Updated Offer vs Serve Guidance for the NSLP and SBP Beginning SY2015–16. <https://www.fns.usda.gov/cn/updated-offer-vs-serve-guidance-nslp-and-sbp-beginning-sy2015-16>. Accessed January 16, 2024.
35. California Department of Education. Healthy Eating & Nutrition Education. Lunch Meal Pattern (Grades K–12). <https://www.cde.ca.gov/ls/nu/he/new-fbmplunch.asp>. Accessed January 16, 2024.
36. Calvert HG, Ohri-Vachaspati P, McQuilkin M, Boedeker P, Turner L. Prevalence of evidence-based school meal practices and associations with reported food waste across a national sample of U.S. elementary schools. *Int J Environ Res Public Health*. 2021;18:8558.
37. Hecht AA, Pollack Porter KM, Turner L. Impact of the community eligibility provision of the healthy, hunger-free kids act on student nutrition, behavior, and academic outcomes: 2011–2019. *Am J Public Health*. 2020;110:1405–1410.

ORCIDs

Dania Orta-Aleman: <http://orcid.org/0000-0001-8581-8714>
 Monica D. Zuercher: <http://orcid.org/0000-0003-2758-9807>
 Kassandra A. Bacon: <http://orcid.org/0009-0009-5338-3985>
 Carolyn Chelius: <http://orcid.org/0009-0002-0291-2364>
 Lorrene D. Ritchie: <http://orcid.org/0000-0002-8038-1821>
 Wendi Gosliner: <http://orcid.org/0000-0001-5092-9289>