



Perceived Influence of a State-Level Universal Free School Meal Policy on Households With Varying Income Levels: An Analysis of Parental Perspectives

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ABSTRACT

Background In the United States, a means-tested approach is often used to provide free or reduced-price meals (FRPM) to students from lower-income households. However, federal income thresholds do not account for regional cost of living variations. Thus, many ineligible households may be at risk for food insecurity. Universal free school meal (UFSM) policies may help address this issue, especially in states with a higher cost of living.

Objective To evaluate parent perceptions of the influence of Massachusetts' statewide UFSM policy on households eligible and ineligible for FRPM.

Design Cross-sectional survey of parents across income categories conducted during the 2022-2023 school year.

Participants/setting Massachusetts parents (N = 403) with children in grades kindergarten through grade 12 with incomes ranging from <185% of the federal poverty level to >300% of the federal poverty level.

Main outcome measures Parents' perceived influence of Massachusetts' UFSM policy on their child and household.

Statistical analyses performed Analysis of variance examined differences in the perceived impact of UFSM by FRPM eligibility, adjusting for demographic characteristics.

Results Households that were FRPM eligible or near eligible were significantly more likely to report that their ability to have enough food for their family would be harder without UFSM ($P < .0001$) compared with those in the highest income category. Across all income categories, approximately 75% of parents reported that school meals should be free for all children, and UFSM saved their family money and time and reduced stress, with no significant differences by FRPM eligibility. Roughly half (52%) reported their household finances would be hurt and 42% of parents from households eligible for FRPM reported their child would be less likely to eat school meals if the UFSM policy ended.

Conclusions This study found strong parent support of UFSM policies regardless of income level. In addition, parents perceived that discontinuing UFSM may adversely influence school meal participation, including among students from lower-income households, as well as food security among households ineligible for FRPM, particularly in areas with higher costs of living. Policies to expand UFSM should be considered among additional states and at the national level.

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IN THE UNITED STATES, THE MAJORITY OF PUBLIC, charter, and nonprofit private schools participate in the School Breakfast and National School Lunch programs, providing healthy school meals to roughly 30 million students daily.¹ Research suggests there are multiple benefits to students eating school meals, which are on average

healthier than foods brought from home.^{2,3} Prior studies have found that school meal participation is associated with improved dietary quality and academic outcomes, as well as reduced risk of food insecurity and obesity.⁴⁻⁶ School meals play a particularly important role for students from economically disadvantaged households, with many children

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relying on school meals for up to half their daily energy intake.⁷ The COVID-19 pandemic further highlighted the key role that school meals play in addressing food insecurity because rates among families with children spiked early in the pandemic when schools closed and meal service stopped briefly.^{8,9} In response to the vulnerabilities in the food system exacerbated by COVID-19, the 2022 White House Conference on Hunger, Nutrition, and Health highlighted increasing access to school meals as a key pillar to reducing diet-related disparities.¹⁰

Traditionally, a means-tested approach has been used to provide free or reduced-price meals (FRPM) to students from lower-income households. Students are eligible to receive a school meal at no cost if their household is determined to be at or below 130% of the federal poverty level (FPL).¹¹ Similarly, students can receive a meal for a reduced price if their household's income is between 130% to 185% of the poverty level.¹¹ Nevertheless, this traditional means-tested approach for FRPM leads to many barriers for students to access school meals. First, the income eligibility criteria for FRPM is the same for all households across the contiguous United States.¹¹ However, the actual cost of living differs by region due to variation in the costs of necessities (eg, housing, childcare, transportation, and food).^{12,13} To quantify this, the US Bureau of Economic Activity applies a formula to identify the Regional Price Parity (RPP). For example, during the 2023-2024 school year, a child from a 4-person family with an annual household income <\$55 500 would be eligible for reduced-price meals.¹¹ But because Massachusetts has among the highest costs of living, a household would need to have an income of \$60 713 (RPP = 109.4) to have equivalent buying power.¹³ However, the RPP is not accounted for when applying for FRPM. As a result, there are potentially many households with children who may be at risk for food insecurity but are not eligible for FRPM, particularly in Massachusetts and other states with a higher cost of living. Although students from households that are enrolled in the Supplemental Nutrition Assistance Program (SNAP) are eligible for FRPM—and SNAP eligibility can help account for higher costs of living through deductions, such as for childcare or shelter costs (eg, rent, utilities, and other housing-related costs) when calculating income eligibility—many households that are eligible do not enroll in SNAP.¹⁴ Among those eligible for FRPM, there are many barriers to participating, including parents having to complete challenging school meal application forms as well as stigma experienced by both parents and students when returning these forms to school as well as participating in the school meal program more broadly.^{15,16} Overall, access to FRPM remains a barrier for many students from households with limited financial resources.¹⁷

Several policies in the United States have been designed to enable higher poverty communities to participate in federal provisions supported by the US Department of Agriculture (USDA)—such as the Community Eligibility Provision (CEP)—which provide all students within an eligible school or district with school meals free of charge.¹⁸ These districts or schools are eligible to opt into CEP using existing administrative data (eg, participation in SNAP).¹⁹ However, many districts and schools that are eligible to participate in CEP or similar provisions do not enroll, in part due to concerns regarding insufficient

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Research Question: What are parents' perceived influence of Massachusetts' statewide universal free school meals policy among households with varying income levels?

Key Findings: In this cross-sectional study that included 403 Massachusetts parents with school-aged children, there was strong support of universal free school meals policies regardless of income level and the majority of parents reported the policy saved their family time and money and reduced stress. Lower income households were more likely to report that their ability to have enough food for their family would be harder without universal free school meals.

reimbursement from the federal government to cover the full cost of implementation.^{18,20,21}

Federal or state-level universal free school meal (UFSM) policies can potentially address the challenges presented by CEP and the traditional means-tested approach by providing comprehensive funding for all students to receive free meals at school.⁶ During the COVID-19 pandemic, The US Congress authorized the USDA to enable all schools in the United States to provide UFSM temporarily beginning in 2020 through the 2021-2022 school year. After this federal UFSM policy ended, several states adopted state-level UFSM policies that went into effect beginning in the 2022-2023 school year, and as of the 2024-2025 school year a total of 8 states had statewide UFSM policies. Because several of these states—including Massachusetts—are among those with the highest cost of living, it is important to evaluate the influence of this policy on households with varying incomes. Thus, the aim of this study was to examine parental perceptions of the influence of Massachusetts' state-level UFSM among households of varying income levels, including those that would and would not be eligible for FRPM.

METHODS

Study Design and Participants

During the 2022-2023 school year, parents or caregivers (hereafter referred to as parents) who had at least 1 child in grades kindergarten through 12 (K-12) attending a public or charter school in Massachusetts were recruited to participate in this cross-sectional study. An independent research firm sent an invitation to parents that were currently participating in their standing research panel inviting them to complete an online survey about school meals. This standing panel of parents was previously recruited by the research firm to be reflective of the demographics of Massachusetts households by characteristics, including race, ethnicity, and income. Parents were contacted by the research firm using emails, texts, and multimedia messages to invite them to complete an online survey about school meals. This methodology has been previously used to obtain representative samples of parents in other states to examine parent perceptions of school meals more broadly.²²

The survey remained open until predetermined sampling quotas were reached, with a goal of recruiting 400 households. These sampling quotas were based on eligibility for FRPM, including 100 households eligible for FRPM, 100

households near eligible for FRPM (defined incomes between 185% and 230% of the FPL), and 200 households with incomes >230% of the FPL. The independent research firm's original parent panel included parents who were eligible for FRPM ($n = 529$), parents who were near eligible for FRPM ($n = 282$), and parents who were not eligible for FRPM ($n = 714$). Households near eligible and not eligible for FRPM were oversampled to ensure income variability among participants. Eligibility was determined using the USDA's criteria for FRPM, which was calculated based on the participants' reported household income accounting for their household size. To make this determination, after parents reported their household size, they were asked to report their family income before taxes in the past 12 months by choosing from 7 income categories with cutoff points specific to household size. The first 2 income categories were eligible for free meals (family income <130% of the FPL), the third category was eligible for reduced-price meals (family income between 130% and 184% of the FPL), and categories 4 through 7 were not eligible for FRPM (family income $\geq 185\%$ of the FPL). Participants were not directly asked about FRPM eligibility, as all households in Massachusetts could receive a free meal under the current statewide UFSM policy. Parents were first screened and those who met the inclusion criteria (ie, had a K-12 child in a Massachusetts public or charter school) were provided with informed consent documents and subsequently were able to complete the survey until all the quotas for household FRPM eligibility were met. If parents clicked on the survey link but the quota was already met for a category, they were thanked and the survey ended.

Measures

The research team developed a 51-item online survey as part of a complementary national study that focused on the impacts of UFSM on lower-income households. The survey was based on existing validated questionnaires²³⁻²⁵ and was developed in collaboration with nutrition and school policy advocacy organizations (eg, School Nutrition Association, Urban School Food Alliance, and Center for Science in the Public Interest), antihunger organizations (eg, Share our Strength, Project Bread, and Full Plates Full Potential), and academic partners across the United States. The survey questions were pilot tested among socioeconomically, racially, and ethnically diverse parents and updated based on their feedback. The final survey included questions regarding opinions about school breakfast and lunch, perceived barriers for school meal participation, and overall opinions of the state-level UFSM policy, as well as parents' perceived impacts of school meals on their child and household. The opinion questions used a 5-point Likert scale with responses ranging from "Strongly disagree = 1" to "Strongly agree = 5". In addition, the survey asked parents about sociodemographic characteristics, including their own and their child's self-reported race ("Alaska Native/American Indian," "Asian/Asian American," "Black/African American," "Native Hawaiian/Other Pacific Islander," "White/Caucasian," and "Other [please specify]"); ethnicity ("Hispanic/Latino" and "Not Hispanic/Latino,"); child's grade and gender; household size (2, 3, 4, 5, 6, 7, 8, or 9 or more); and household income (income categories were based on household size). The online survey was programmed in Qualtrics version March 2022 and

available in English or Spanish using a telephone, computer, or tablet.²⁶ If a parent had more than 1 child in grades K-12, the survey requested that they focus their responses on the child with the most recent birthday to support random selection. Parents received a \$20 incentive for completing the survey. The Merrimack College Institutional Review Board approved the study protocol (protocol No. IRB-FY21-22-28) and all participants provided written informed consent.

Statistical Analyses

Descriptive statistics (frequencies, percentages, averages, and SEs) were calculated for the full sample of households and stratified by household eligibility for FRPM. In addition to the original FRPM eligibility categories of "Eligible for FRPM" and "Near eligible" (households not eligible for FRPM with incomes between 185% to 230% of the FPL), the other income category for those not eligible for FRPM was further divided into 2 categories: "Not eligible for FRPM: Mid income category" and "Not eligible for FRPM: Top income category," resulting in a total of 4 FRPM eligibility categories (Figure 1, available at www.jandonline.org). The "Not eligible for FRPM: Mid income category" was defined as households between 230% and 300% of the FPL accounting for household size (eg, an income between approximately \$64 000 and \$83 000 for a family of 4). The "Not eligible for FRPM: Top income category" was defined as households above 300% of the FPL. Race and ethnicity were combined into 5 categories for analysis: White (non-Hispanic), Hispanic (including White and all other races), Black (non-Hispanic); Asian (non-Hispanic), and other race/multiracial (due to small sample sizes, this category included Alaska Native/American Indian, Native Hawaiian/Other Pacific Islander, other race, and more than 1 race category). Average survey scores for parent's perceptions were calculated by first converting Likert scale survey responses into numbers for each participant (eg, a response of "strongly disagree" was given a value of 1, "disagree" was given a value of 2, "neither agree nor disagree" was given a value of 3, "agree" was given a value of 4, and "strongly agree" was given a value of 5), and then averaging these values across participants. Analysis of variance was used to compare reported school breakfast and lunch participation, as well as parents' perceptions of UFSM, by eligibility for FRPM (using the 4 response categories). All models adjusted for the child's grade, gender, and race/ethnicity. Average scores by FRPM eligibility were calculated using least squares means regression. Household size and SNAP participation were also examined but were not found to be statistically significant, and thus not included in the final models. Analyses were conducted using SAS statistical software version 9.4.²⁷

RESULTS

A total of 403 participants completed the survey (participant enrollment slightly exceeded the recruitment goal due to 3 participants who began the survey at similar times before the quotas were met). The majority of participants (75%) identified as mothers (Table 2). A third of the participants (33.5%) had a child in elementary school, 39% in middle school, and 27.5% in high school. Approximately 68% of parents reported that their children were non-Hispanic White, 15% Hispanic, 10% non-Hispanic Black, 4% Asian, and 6% other races or multiracial, which was broadly reflective of the racial and

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Table 2. Characteristics of 403 Massachusetts parents and their children participating in a survey examining perceptions of universal free school meals (UFSM)

Variable	n (%)
Participant characteristic	
Relationship with student^a	
Mother	303 (75.1)
Father	80 (19.9)
Other ^b	20 (5.0)
Household size	
2-3 people	147 (36.5)
4 people	151 (37.5)
5 or more people	105 (26.1)
FRPM eligibility^c	
Eligible for FRPM	100 (25.8)
Not eligible for FRPM ^d	
Near eligible	103 (25.6)
Mid income	42 (10.4)
Top income	158 (39.2)
SNAP^e participation	
Currently participating in SNAP	138 (34.2)
Characteristics of participant's child	
Student grade	
Elementary, grades 2-5	135 (33.5)
Middle, grades 6-8	157 (39.0)
High, grades 9-12	111 (27.5)
Student gender	
Girl	185 (47.1)
Boy	208 (52.9)
Other ^f	10 (2.8)
Student race and ethnicity	
Asian	14 (3.5)
Black (non-Hispanic)	41 (10.2)
Hispanic	62 (15.4)
White (non-Hispanic)	274 (68.0)
Other race/multiracial ^g	23 (5.7)
Student breakfast participation^h (d/wk)	
0	87 (27.7)
1-2	73 (23.4)
3-4	77 (24.5)
5	77 (24.5)
Student lunch participation (d/wk)	
0	29 (7.3)
1-2	65 (16.4)

(continued)

Table 2. Characteristics of 403 Massachusetts parents and their children participating in a survey examining perceptions of universal free school meals (UFSM) (continued)

Variable	n (%)
3-4	121 (30.5)
5	181 (45.7)

^aIf a parent had more than 1 child in grades kindergarten through 12, the survey requested that they focus their responses on the child with the most recent birthday to support random selection.

^bOther caregiver category included legal guardians, grandparents, or aunt/uncles.

^cFRPM = free or reduced-price meals. Based on US Department of Agriculture eligibility for FRPM accounting for household size.

^dNear eligible was defined as a household income between 185% and 230% of the federal poverty level (FPL); mid income was defined as between 230% and 300% of the FPL; top income was defined as a household income >300% of the FPL.

^eSNAP = Supplemental Nutrition Assistance Program.

^fOther gender category included nonbinary, transgender, and preferred not to answer.

^gOther race/multiracial category included participants who identified as Alaska Native/American Indian, Native Hawaiian/Other Pacific Islander, a race category not included in the survey (with the opportunity to specify), or more than 1 race.

^hSignificant differences by eligibility for FRPM ($P < .05$), calculated using analysis of variance, adjusting for grade, gender, and race/ethnicity of the participants' child.

ethnic demographics of state of Massachusetts.²⁵ Based on recruitment quotas (and accounting for income and household size), roughly one-quarter of the participants' children were calculated to be eligible for FRPM. Among those not eligible for FRPM, a quarter were in the near eligible category, 10% were in the not eligible mid income category ("mid income"), and more than one-third were in the not eligible top income category ("top income"). Compared with households that were not eligible for FRPM, households that were eligible for FRPM or near eligible for FRPM reported that their child ate school breakfast more frequently ($P < .05$); among households not eligible for FRPM, 37.5% of parents in the top income and 44.4% of parents in the mid income category reported that their child ate school breakfast at least 3 days per week, whereas 55.7% among near eligible and 64.0% among households eligible for FRPM reported their child ate school breakfast at least 3 days per week (data not shown). When examining lunch participation, no statistically significant differences were found in reported lunch participation by eligibility for FRPM. Among all parents, the majority (93%) reported that their child ate school lunch at least once a week and nearly half (47.5%) reported that their child ate school lunch daily.

When examining parents' perceptions of the impact of the UFSM meal policy on their household and their child, no statistically significant differences were found in the average response score by eligibility for FRPM (Table 3). The majority of all parents agreed or strongly agreed the policy saved their family money (79%), saved their family time (78%), and reduced stress for their family (75%) (see Figure 1, available at www.jandonline.org). Most parents perceived that their child was not (or would not be) embarrassed to eat school meals (69%), and similarly most reported that they were not embarrassed for their child to eat school meals (74%). In addition, when asked about perceptions of UFSM in general, the majority of all parents agreed or strongly agreed that

Table 3. Massachusetts parents' perceptions of universal free school meals (UFSM) by household eligibility for free or reduced-price meals (FRPM)^a

	Eligible for FRPM (n = 100)		Not eligible for FRPM ^b				
			Near eligible (n = 103)		Mid income (n = 51)		Top income ^c (n = 149)
	Average score ^d (SE)	P value ^e	Average score ^d (SE)	P value ^e	Average score ^d (SE)	P value ^e	Average score ^e (SE)
Perceived influence on their household or child							
School meals can save my family money	4.09 (0.17)	.8	4.08 (0.17)	.8	4.09 (0.21)	.8	4.12 (0.17)
School meals can save my family time.	4.12 (0.15)	.3	4.21 (0.15)	.8	4.02 (0.19)	.2	4.25 (0.15)
School meals can help to reduce stress for me/my family	3.83 (0.15)	.1	3.97 (0.15)	.6	3.77 (0.18)	.1	4.03 (0.15)
My child is (or would be) embarrassed to eat school meals	2.30 (0.18)	.3	2.41 (0.17)	.8	2.29 (0.21)	.4	2.45 (0.17)
I would be embarrassed for my child to eat school meals	2.05 (0.18)	.07	2.20 (0.17)	.3	1.98 (0.21)	.08	2.32 (0.17)
Perceptions of UFSM in general							
UFSM can help struggling families	4.28 (0.17)	.8	4.16 (0.18)	.6	4.37 (0.22)	.5	4.24 (0.18)
UFSM can improve student behavior and academic achievement	3.91 (0.17)	.9	3.63 (0.18)	.05	3.77 (0.22)	.5	3.91 (0.18)
School meals should be free for all students	4.13 (0.19)	.6	3.86 (0.19)	.2	4.21 (0.23)	.5	4.06 (0.19)

^aParental perceptions were based on a 51-item online survey that was developed based on existing validated questionnaires²³⁻²⁵ and was developed in collaboration with nutrition and school policy advocacy organizations (eg, School Nutrition Association, Urban School Food Alliance, and Center for Science in the Public Interest), antihunger organizations (eg, Share our Strength, Project Bread, and Full Plates Full Potential), and academic partners across the United States.

^bNear eligible was defined as a household income between 185% and 230% of the federal poverty level (FPL); mid income was defined as between 230% and 300% of the FPL; top income was defined as a household income >300% of the FPL.

^cReference category.

^dAverage scores were determined using a 5-point Likert scale with responses ranging from "Strongly disagree = 1" to "Strongly agree = 5" and calculated using least squares means regression.

^eCalculated using analysis of variance to parents' perceptions of UFSM by eligibility for FRPM (top income as reference category), adjusted for the child's grade, gender, and race/ethnicity.

UFSM policies helped students whose families struggle to afford enough to eat (83%), may improve student behavior and academic achievement (78%), and should be free for all students regardless of their household income (78%) (Figure 1, available at www.jandonline.org).

Parents were also asked about what they thought would be the influence of ending the state's UFSM policy (ie, survey prompt: "Now imagine if schools returned to charging students for meals unless they qualified for free meals based on household income") (Table 4). Roughly half of all parents (48%) perceived that without UFSM, their child would be less likely to eat school meals, including 42% of parents from households eligible for FRPM (data not shown). The average survey score ranged from 3.48 among households eligible for FRPM to 3.88 among those in the top income category ($P = .01$). In addition, on average 29% of parents believed their child would be embarrassed to eat school meals without UFSM, with no statistically significant differences found by eligibility for FRPM. When examining the perceived influence of ending the state's UFSM policy on their household, roughly half of parents (52%) agreed or strongly agreed that their household finances would be hurt. Compared with parents in the top income group

(average survey score = 2.96), higher survey scores (corresponding to more agree and strongly agree responses) were observed among parents who were eligible for FRPM (average score = 3.34; $P = .02$) and near eligible ($P = 3.38$; $P = .006$). On average, nearly two-thirds (65%) of parents from households eligible for FRPM and 57% of parents from near eligible households reported their household finances would be hurt without UFSM, whereas 48% of parents in the mid income category, and 42% in the top income category reported their finances would be hurt (Figure 3, available at www.jandonline.org). Similarly, 44% of parents reported that they believed their ability to have enough food for everyone in their family would be harder if school meals were no longer free for all students, with significantly higher survey scores among households eligible for FRPM (average score = 3.79) and near eligible (average score = 3.60), compared with those who were in the top income category (average score = 3.01; $P < .0001$). In addition, slightly less than half of all parents (44%) reported that their ability to have enough food for everyone in their household would be hurt without UFSM, with 61% of households eligible for FRPM and 60% of near eligible households agreeing or strongly agreeing, whereas more than one-third

Table 4. Massachusetts parent perceptions of the influence of de-implementing universal free school meals (UFSM) by household eligibility for free or reduced-price meals (FRPM)^a

	Not eligible for FRPM ^b						
	Eligible for FRPM (n = 100)		Near eligible (n = 103)		Mid income (n = 51)		Top income ^c (n = 149)
	Average score ^d (SE)	P value ^e	Average score ^d (SE)	P value ^e	Average score ^d (SE)	P value ^e	Average score ^d (SE)
My child would be less likely to eat school meals if they were not free for all students.	3.48 (0.19)	.01	3.79 (0.19)	.6	3.63 (0.23)	.2	3.88 (.18)
My child would feel embarrassed getting school meals if they were not free for all students	3.06 (0.20)	.3	3.07 (0.20)	.3	2.55 (0.24)	.1	2.89 (.19)
I would feel embarrassed about my child getting school meals if they were not free for all students	2.75 (0.19)	.8	2.96 (0.19)	.3	2.55 (0.23)	.3	2.79 (.19)
Our household finances would be hurt if meals were no longer free for all students	3.34 (0.19)	.02	3.38 (0.18)	.006	3.07 (0.22)	.6	2.96 (.18)
Our ability to have enough food for all in our household would be harder if meals were no longer free for all students	3.79 (0.19)	< .0001	3.63 (0.18)	< .0001	3.19 (0.22)	.4	3.01 (.20)
I would feel more stress if meals were no longer free for all students	3.77 (0.18)	.003	3.68 (0.18)	.1	3.47 (0.21)	.9	3.44 (.18)

Note: Boldface indicates statistical significance ($P < .05$).

^aParental perceptions were based on a 51-item online survey that was developed based on existing validated questionnaires²³⁻²⁵ and was developed in collaboration with nutrition and school policy advocacy organizations (eg, School Nutrition Association, Urban School Food Alliance, and Center for Science in the Public Interest), antihunger organizations (eg, Share our Strength, Project Bread, and Full Plates Full Potential), and academic partners across the United States.

^bNear eligible was defined as a household income between 185% and 230% of the federal poverty level (FPL); Mid income was defined as between 230% and 300% of the FPL; top income was defined as a household income >300% of the FPL.

^cReference category.

^dAverage scores were determined using a 5-point Likert scale with responses ranging from "Strongly disagree = 1" to "Strongly agree = 5" and calculated using least squares means regression.

^eCalculated using analysis of variance to parents' perceptions of UFSM by eligibility for FRPM (Top income as reference category), adjusted for the child's grade, gender, and race/ethnicity.

(36%) of parents in the mid income category and more than one-quarter (26%) of households in the top income category also agreed or strongly agreed.

When examining parents' perceived stress if the UFSM policy ended, nearly two-thirds of parents (62%) reported that they would feel more stress, with higher survey scores observed among those eligible for FRPM compared with those in the top income category (3.77 vs 3.44; $P = .003$). On average, three-quarters of parents from households eligible for FRPM perceived that they would feel more stress, whereas 56% of parents from the top income category perceived they would feel more stress without a UFSM policy. Lastly, nearly one-third of parents (32%) reported that they would be embarrassed for their child to eat school meals, with no statistically significant differences found by eligibility for FRPM.

DISCUSSION

This study found that a sample of parents across income categories perceived multiple benefits from the state-level UFSM for both their household and child. Across all income

groups, the majority of parents reported that the UFSM policy saved their family time and money and reduced stress. In addition, the majority of parents had positive perceptions of UFSM policies more broadly and believed that school meals should be free for all students regardless of household income. When asked about the perceived influence if the state-level UFSM policy were to end, reverting to the traditional means-tested system to receive FRPM, more than half of parents believe that their household finances would be hurt, particularly among households that were eligible or near eligible for FRPM. Similarly, almost half of parents believed their ability to have enough food for everyone in their family would be harder without a UFSM policy, especially among those eligible or near eligible for FRPM.

Among of the primary benefits of UFSM policies is its ability to help address the issue of stigma associated with receiving FRPM. This study found that with UFSM <15% of parents were currently embarrassed or perceived their child was embarrassed to eat school meals. Conversely, when asked about the potential influence of ending the UFSM policy, more than one-quarter of parents reported that they

would be embarrassed and roughly one-third perceived their child would be embarrassed to eat school meals, regardless of income category. This suggests that students from both higher and lower income households may feel embarrassed about participating in school meals when it is not free for all students. In addition, nearly half of parents reported their child would be less likely to eat school meals, including 42% of parents from households eligible for FRPM. The results of this study are consistent with recent research among school food authorities and parents in other states that found that UFSM policies reduced stigma for parents and children.^{15,16,28,29} This research also has important implications because prior research suggests that many parents do not complete FRPM applications due to the stigma of being perceived as low-income.^{29,30} Thus, UFSM may increase participation among low-income households already eligible for FRPM by reducing the barriers to school meal participation, especially through reducing stigma for both students and parents as more students across income categories participate in school meals, highlighting this policy's potential to promote nutrition equity.^{31,32}

Importantly, many perceived benefits of UFSM were documented among parents of children not eligible for FRPM as well as among those whose children were eligible for FRPM. Parents reported that UFSM reduced stress for their household, in addition to saving money and time. More than half of parents from households that were near eligible for FRPM reported that their household finances would be hurt and their ability to have enough food for their household would be hard without UFSM policies. In addition, nearly half of the households with incomes within 300% of the FPL believed their household finances would be hurt and roughly one-third reported their ability to have enough food would become more difficult without UFSM. Many households that are not currently eligible for FRPM in states without UFSM policies may be struggling financially, particularly in areas with a higher cost of living, and thus UFSM may play a particularly important role in supporting food security among children and families that may not be eligible for federal safety net programs.³³ Given that school meals are healthier on average than most other meals children eat and that the average diet quality of American children is suboptimal, regardless of household income, UFSM policies have the potential to improve the nutrition and health of US children more broadly by increasing access to school meals.^{2,3,34} Alternative strategies, such as in New Jersey where they have recently passed legislation expanding eligibility for FRPM to 224% of the FPL, can also help to address some of these issues when the passage of a UFSM policy is not feasible.³⁵

This study had several strengths and limitations. The study included a large sample of parents who were reflective of the sociodemographic diversity of the state. This study also included households with varying incomes, including households that were eligible for FRPM, as well as those that were near eligible and not eligible. However, only 1 state was examined using a cross-sectional study design. More research in other states with both higher and lower costs of living is warranted. Parents who were participating in a standing research panel were used for this study. Although this panel was representative of parents throughout the state of Massachusetts based on certain demographic characteristics, including race, ethnicity, and income, it is possible that there

were other ways this population differed from those of other parents throughout the state, such as being more tech savvy. Although these differences would be unlikely to influence their perceptions of UFSM, future studies that use other sampling techniques and/or are conducted in other states should be considered. In addition, only parent perceptions were examined and it is possible that they differ from some of the actual effects of the policy or their children's experiences, particularly related to experiences of stigma. Future research should also examine racially, ethnically, and geographically diverse students' perceptions of UFSM policies. Regardless, parents' perceptions play an important role in the decision to complete FRPM applications and can influence student school meal participation.^{28,36} In addition, parent perceptions are also relevant to household-level factors such as finances, food security, and stress.

CONCLUSIONS

This study is among the first to examine the parental perceptions of the influence of a statewide UFSM policy on economically diverse households. Study findings suggest there is strong support of UFSM policies among parents. The majority of parents across all household income levels perceived that there were many benefits of UFSM to both students and households. The results of this study suggest that UFSM may reduce stigma regarding school meal participation, and therefore improve school meal participation among students, including those already eligible for FRPM, thus promoting nutrition equity. In addition, many households that are not eligible for FRPM may greatly benefit from UFSM to ensure food security among all family members, especially in areas with higher costs of living. Federal policymakers should consider expanding UFSM policies, including improving the reimbursement rate for CEP to ensure the financial viability of opting into this provision and to increase participation among schools and districts. States should also strongly consider statewide UFSM policies and/or legislation requiring that all eligible districts participate in CEP with corresponding financial support for schools.

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STATEMENT OF POTENTIAL CONFLICT OF INTEREST

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AUTHOR CONTRIBUTIONS

J. F. W. Cohen, L. E. Chapman, W. Gosliner, C. A. Hecht, K. Hecht, P. Ohri-Vachaspati, D. Orta-Aleman, A. I. Patel, M. Polacsek, L. D. Ritchie, L. Minc, and M. D. Zuercher conceptualized this study. J. F. W. Cohen, L. E. Chapman, W. Gosliner, C. A. Hecht, K. Hecht, P. Ohri-Vachaspati, M. Polacsek, L. D. Ritchie, and L. Minc acquired study funding. J. F. W. Cohen, W. Gosliner, P. Ohri-Vachaspati, D. Orta-Aleman, L. D. Ritchie, and M. D. Zuercher developed the study methodology. J. F. W. Cohen, W. Gosliner, D. Orta-Aleman, L. D. Ritchie, and M. D. Zuercher supervised the study. J. F. W. Cohen led the writing. J. F. W. Cohen, L. E. Chapman, W. Gosliner, C. A. Hecht, K. Hecht, P. Ohri-Vachaspati, D. Orta-Aleman, A. I. Patel, M. Polacsek, L. D. Ritchie, L. Minc, and M. D. Zuercher reviewed and edited the manuscript. All authors reviewed and commented on subsequent drafts of the manuscript.

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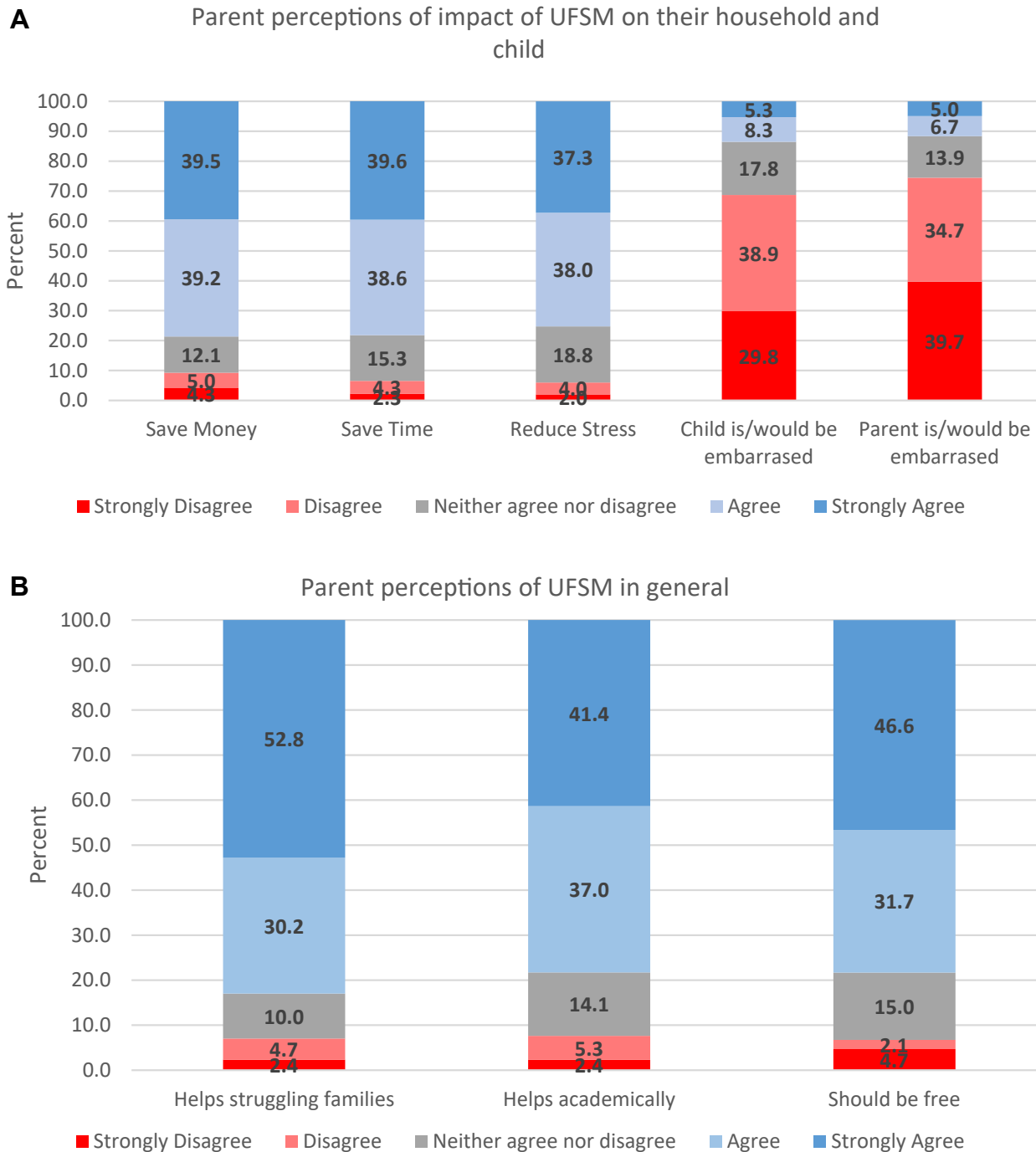


Figure 1. A sample of Massachusetts parents' perceptions of a universal free school meal (UFSM) policy (N = 403).^a ^aNo statistically significant differences were found in the average response score by eligibility for free or reduced-price meals.

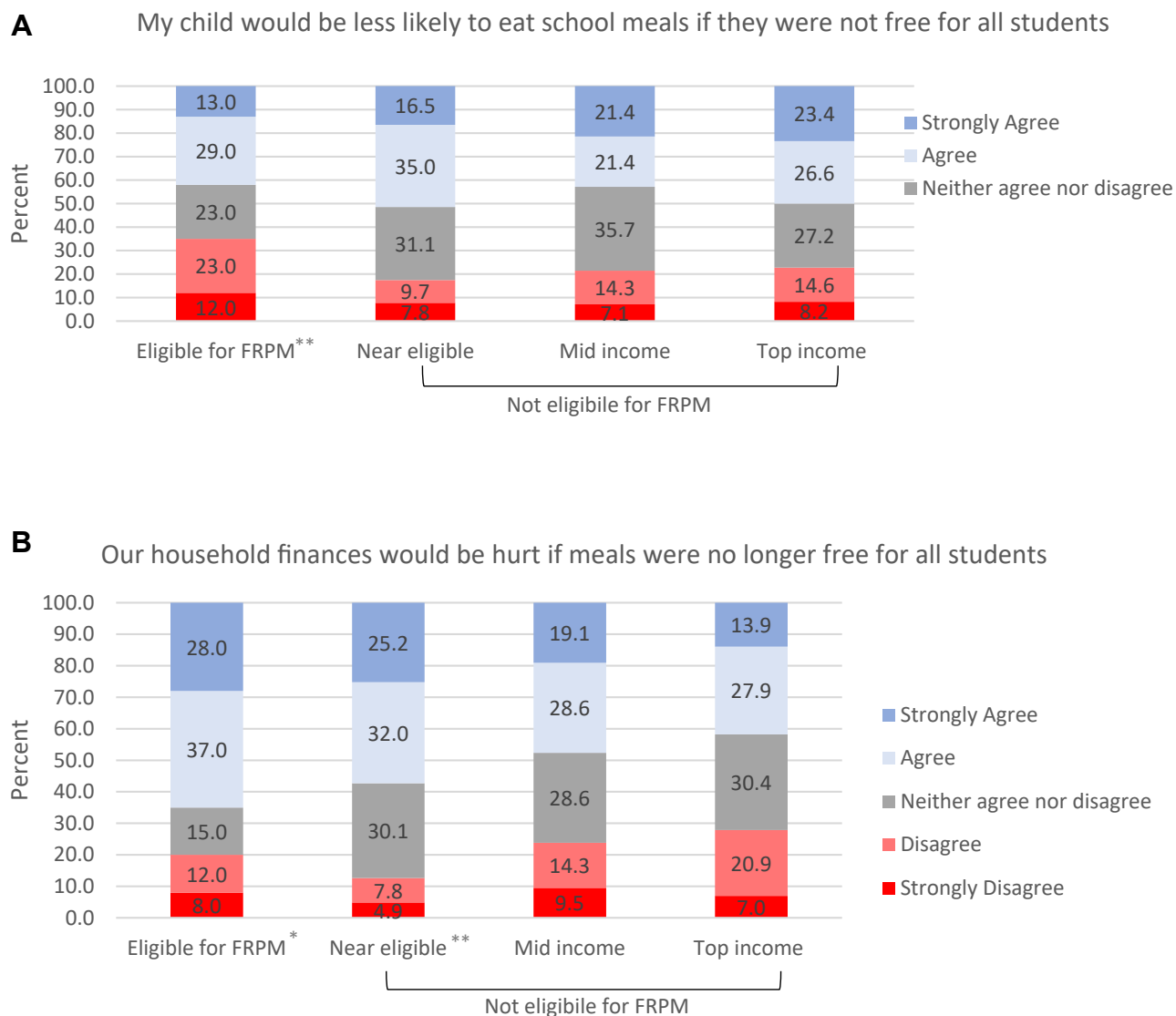


Figure 2. Massachusetts parents' perceived influence of ending the state-level universal free school meals (UFSM) policy, by eligibility for free or reduced-price meals (FRPM).^a Near eligible was defined as a household income between 185% and 230% of the federal poverty level (FPL), mid income was defined as between 230% and 300% of the FPL, and top income was defined as a household income >300% of the FPL. * $P < .05$. ** $P < .01$. *** $P < .001$ by eligibility for FRPM (top income as reference category) for response scores, calculated using analysis of variance adjusted for the child's grade, gender, and race/ethnicity.

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Figure 2. (continued). Massachusetts parents' perceived influence of ending the state-level universal free school meals (UFSM) policy, by eligibility for free or reduced-price meals (FRPM).^a ^aNear eligible was defined as a household income between 185% and 230% of the federal poverty level (FPL), mid income was defined as between 230% and 300% of the FPL, and top income was defined as a household income >300% of the FPL. * $P < .05$. ** $P < .01$. *** $P < .001$ by eligibility for FRPM (top income as reference category) for response scores, calculated using analysis of variance adjusted for the child's grade, gender, and race/ethnicity.

Table 1. Income categories among households eligible and not eligible for free or reduced-priced meals (FRPM)^a

Household size	Federal Poverty Level ^b	Eligible for FRPM ^c		Not Eligible for FRPM ^d		
		Free Meals	Reduced-Price Meals	Near Eligible	Mid Income	Top Income
		←—————\$—————→				
2	18 310	≤ 23 804- 33 874	23 804-33874	33 875- 42 113	42 114-54 930	≥ 54 931
3	23 030	≤ 29939	29940-42606	42 607-52 969	52 970-69 090	≥ 69 091
4	27 750	≤36 075	36 076-51 338	51 339-63 825	63 826-83 250	≥83 251
5	32 470	≤ 42 211	42 212-60 070	60 071-74 681	74 682-97 410	≥97 411
6	37 190	≤ 48 347	48 348-68 802	68 803-85 537	85 538-111 570	≥111 571
7	41 910	≤ 54 483	54 484-77 534	77 535-96 393	96 394-125 730	≥125 731
8	46 630	≤ 60 619	60 620-86 226	86 267-107 249	107 250-139 890	≥139 891
9	51 350	≤ 66 744	66 756-94 998	94 999-118-105	118 106-154 050	≥154 051

^aAnnual incomes, with FRPM eligibility for the 2022-23 school year (source: <https://www.federalregister.gov/documents/2022/02/16/2022-03261/child-nutrition-programs-income-eligibility-guidelines>)

^bReference category.

^cEligibility was: free meals, ≤130% of federal poverty level and reduced-price meals, >130% to 185% of federal poverty level.

^dEligibility was: near eligible, >185% to 230% of federal poverty level; mid income, >230% to 300% of federal poverty level; and top income, >300% of federal poverty level.