

Current State of Processed Foods in Schools

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Summary:

School meals play an important role in supporting children's nutrition. Despite substantial improvements in the nutritional quality of school meals following the 2010 Healthy, Hunger-Free Kids Act, concerns remain regarding the level of processing of the foods served in schools. This may be due to growing evidence of potential adverse outcomes associated with ultra-processed foods, which are industrial formulations designed to enhance the hyper-palatability and shelf life of foods. To better understand how frequently schools serve processed or minimally processed foods, a sample of 1,226 school food authorities (SFAs) across 8 states with and without state-level healthy school meals for all (HSMFA) policies were surveyed. Overall, the majority of schools regularly served convenience foods (i.e., pre-portioned, heat and serve items) and/or quick preparation foods (i.e. made by assembling and portioning foods with pre-cooked ingredients), which primarily consist of processed and ultra-processed foods. Conversely, 17% of schools served scratch or modified scratch cooked foods (i.e., minimally processed) daily and only 3% of schools reported serving exclusively scratch or modified scratch cooked foods. Most schools reported challenges related to insufficient funding—including for school meals, to recruit new staff, and for necessary kitchen equipment or kitchen facilities/storage. Additional funding to address these challenges may be needed to reduce schools' reliance on more processed foods. Schools served minimally processed foods more frequently when they received federal grants to support local food purchasing or equipment, as well as if they were in states with HSMFA policies.

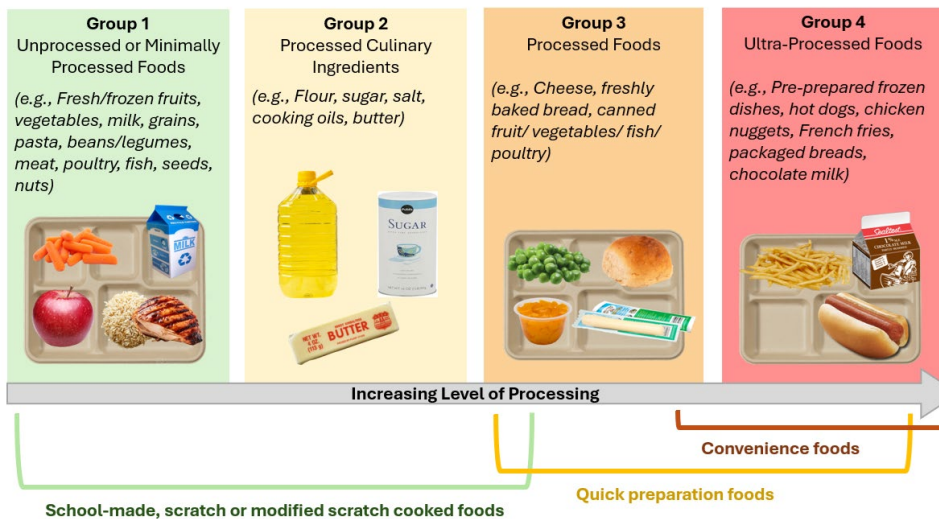


Background:

School meals play an important role in supporting children’s nutrition, with many children receiving up to half their daily energy intake from school meals.¹ The Healthy, Hunger-Free Kids Act of 2010 made substantial improvements to the healthfulness of meals served in schools—including more fruits, a variety of vegetables, and whole grains, as well as lower sodium levels—making schools the healthiest source of nutrition on average for US children.²⁻⁴ However, to date there are no regulations around the degree of processing in school foods. In particular, there are growing concerns regarding “ultra-processed” foods, which are industrial formulations that contain flavors, additives, and other ingredients not found in a home kitchen and are designed to enhance hyper-palatability and shelf life.⁵ Recent studies suggest these foods are associated with increased risk of metabolic syndrome and other adverse health outcomes in children and adolescents.⁵⁻¹¹ Research also suggests that students may negatively perceive school meals that contain more processed foods, which may result in lower school meal participation levels.¹² However, the prevalence and level of processing of school foods in schools is currently unknown.

School meals can include (1) **school-made, scratch or modified scratch cooked foods** (i.e., primarily minimally processed foods, with additional processed foods made with culinary ingredients, such as freshly baked rolls); (2) **quick preparation foods** (i.e., foods that primarily involve assembling/portioning foods with pre-cooked ingredients that typically include processed and/or ultra-processed foods, such as canned fruits or sandwiches made with pre-packaged bread and deli meats); or (3) **convenience foods** (i.e., pre-portioned, heat and serve items, which are typically made with ultra-processed foods, such as hot dogs, chicken nuggets, or French fries). Figure 1 summarizes the spectrum of processing of school foods based on the NOVA classification system.⁶ This research brief summarizes the preliminary results of an evaluation examining the frequency of serving scratch/modified scratch cooked; quick preparation; and convenience foods in a national sample of schools.

Figure 1. Spectrum of processing of school foods based on the NOVA classification*



*Image adapted from Crimarco et al.¹³ Definitions adapted from Monteiro et al.⁶

Methods:

In 2023, surveys were sent to all school food authorities (SFAs) within eight states with and without state-level Healthy School Meals for All (HSMFA) policies that provided free meals to all students within the state. The survey was developed in collaboration with multiple stakeholders, including anti-hunger organizations and school nutrition organizations, and was pilot tested among SFAs. The survey included questions regarding the frequency of serving: (1) convenience foods (i.e., pre-portioned, heat and serve items); (2) quick preparation foods (i.e., foods that primarily involved assembling and portioning foods with pre-cooked ingredients); and (3) school-made, scratch or modified scratch preparations of foods (i.e., primarily minimally processed foods). A total of 1226 SFAs completed the survey. Results were analyzed using multi-level analysis of variance, accounting for clustering within each state and adjusting for HSMFA status and district-level demographics (e.g., urbanicity, student enrollment levels, poverty levels, and participation in the Community Eligibility Provision [CEP]).

Summary of Findings:

Across all SFAs:

Convenience Foods (i.e., pre-portioned, heat and serve items)

- 25% of schools reported **offering convenience foods *daily***.
- 52% of schools reported **offering convenience foods *at least three times per week***.

Quick Preparation Foods (i.e., foods that primarily involved assembling and portioning foods with pre-cooked ingredients)

- 30% of schools reported **offering quick preparation foods *daily***.
- 54% of schools reported **offering quick preparation foods *at least three times per week***.

School-Made, Scratch or Modified Scratch Cooked Foods (i.e., primarily minimally processed foods)

- 17% of schools reported **offering scratch/modified scratch cooked foods *daily***.
- 44% of schools reported **offering scratch/modified scratch cooked foods *at least three times per week***.
- 3% of schools reported **serving exclusively scratch/modified scratch cooked foods**.
- SFAs were **significantly more likely to serve scratch/modified scratch cooked foods** if they:
 - Received a **federal or state grant** to increase procurement of local produce ($p<0.05$).*
 - Were in a state with a **HSMFA policy** ($p<0.05$).

**SFAs were also significantly more likely to offer scratch/modified scratch cooked foods if they had received a federal grant for new kitchen equipment ($p<0.05$).*

When examining factors that may impact the ability to serve more minimally processed foods in schools:

- 45% of SFAs reported that **reimbursement rates for school meals are insufficient** to cover the full cost of producing meals.
- 71% of SFAs reported **insufficient wages to recruit new staff** as a moderate or significant challenge.
- 45% of SFAs reported **inadequate kitchen equipment** as a moderate or significant challenge.
- 51% of SFAs reported **inadequate kitchen facility and/or storage space** as a moderate or significant challenge.

Implication and Recommendations:

The results of this study suggest that the majority of schools regularly serve convenience and quick preparation foods, which are likely a combination of processed and ultra-processed foods. School food authorities report a number of barriers including insufficient funding for foods or to recruit new staff, as well as challenges related to infrastructure and equipment typically necessary for more scratch cooking. Importantly, federal and state grants to schools—such as those that support the procurement of local foods— were associated with a greater frequency of serving scratch/modified scratch cooked foods (i.e. primarily minimally processed) in schools. Additionally, state-level HSMFA policies were also associated with greater frequency of serving scratch/modified scratch cooked foods, potentially due to greater participation rates leading to more financial resources and reductions in food costs due to economies of scale. Overall, the research suggests that schools currently face several barriers to reducing ultra-processed foods and replacing them with less processed food offerings. Federal and state grants, as well as HSMFA policies can potentially help school food service leaders successfully make this transition.



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<https://www.childnourishlab.org/healthy-school-meals-for-all>

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