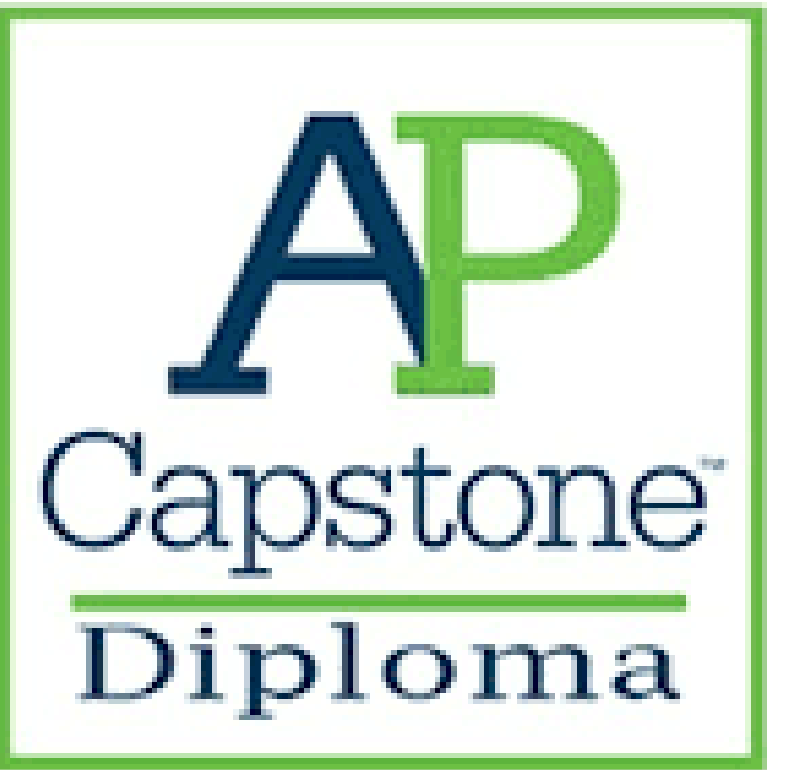




# A study on the increase of school lunch waste and why



## How is the Palatability of School Lunches affecting Secondary Students Likeliness to Consume Parts of the Meal?

### Introduction

The National School Lunch Program (NSLP) in the United States serves millions of students daily, aiming to provide nutritious meals that support children's health and academic performance. However, a significant portion of the food served in schools goes uneaten, with fruits and vegetables being the most wasted items. While schools have made changes to offer more nutritious options, the challenge lies in ensuring that students actually consume these foods. On one hand, schools are required to follow strict nutritional guidelines, which often include offering a variety of fruits, vegetables, and whole grains. On the other hand, students' preferences and eating behaviors do not always line up with these healthier options. Research has shown that students are more likely to consume foods that are familiar to them and that meet their taste preferences. The existing literature on school lunch consumption and waste has primarily focused on the impact of policy changes, such as the implementation of the USDA's updated nutritional standards, on food selection and waste patterns.

There is a gap in understanding how student preferences, particularly those shaped by cultural backgrounds and food familiarity, contribute to the problem. Therefore, a critical limitation of in the current research is the lack of direct student input. Most research has relied on observation or trends in food waste to draw conclusions, without directly engaging students to understand their needs, preferences, and perceptions of school meals. This study aims to fill that gap by exploring the relationship between student preferences, cultural influences, and food waste in school lunch programs, while directly engaging students to gather their perspectives.

### Methodology

To ensure the credibility and depth of my findings, I used a mixed-methods approach consisting of 3 steps: (1) student surveys, (2) casual interviews, and (3) a menu analysis of school lunches served during the two week study period. This tri-step process allowed me to analyze the issue of school lunch was from multiple angles and strengthen the trustworthiness of my results. The survey, adapted from previously peer-reviewed food behavior instruments (Cohen et al., 2014; Bordi et al., 2008), quantitatively measured food waste and satisfaction. Students were asked to report on each component of their meal—entrée, vegetable, fruit, grain, and milk—whether they ate it, why or why not, and how satisfied they were. The survey also included multiple-choice and Likert-scale questions to assess overall lunch quality, food familiarity, taste, temperature, and visual appeal.

The study incorporated a demographic analysis component where participants self-identified their racial and ethnic backgrounds through survey questions. This demographic data allowed for analysis of how cultural factors might influence various aspects of the lunch experience, including patterns of food acceptance and rejection, satisfaction levels across different meals, and willingness to try unfamiliar foods. The demographic lens proved particularly valuable for identifying potential cultural variations in food preferences that might inform more inclusive menu planning.

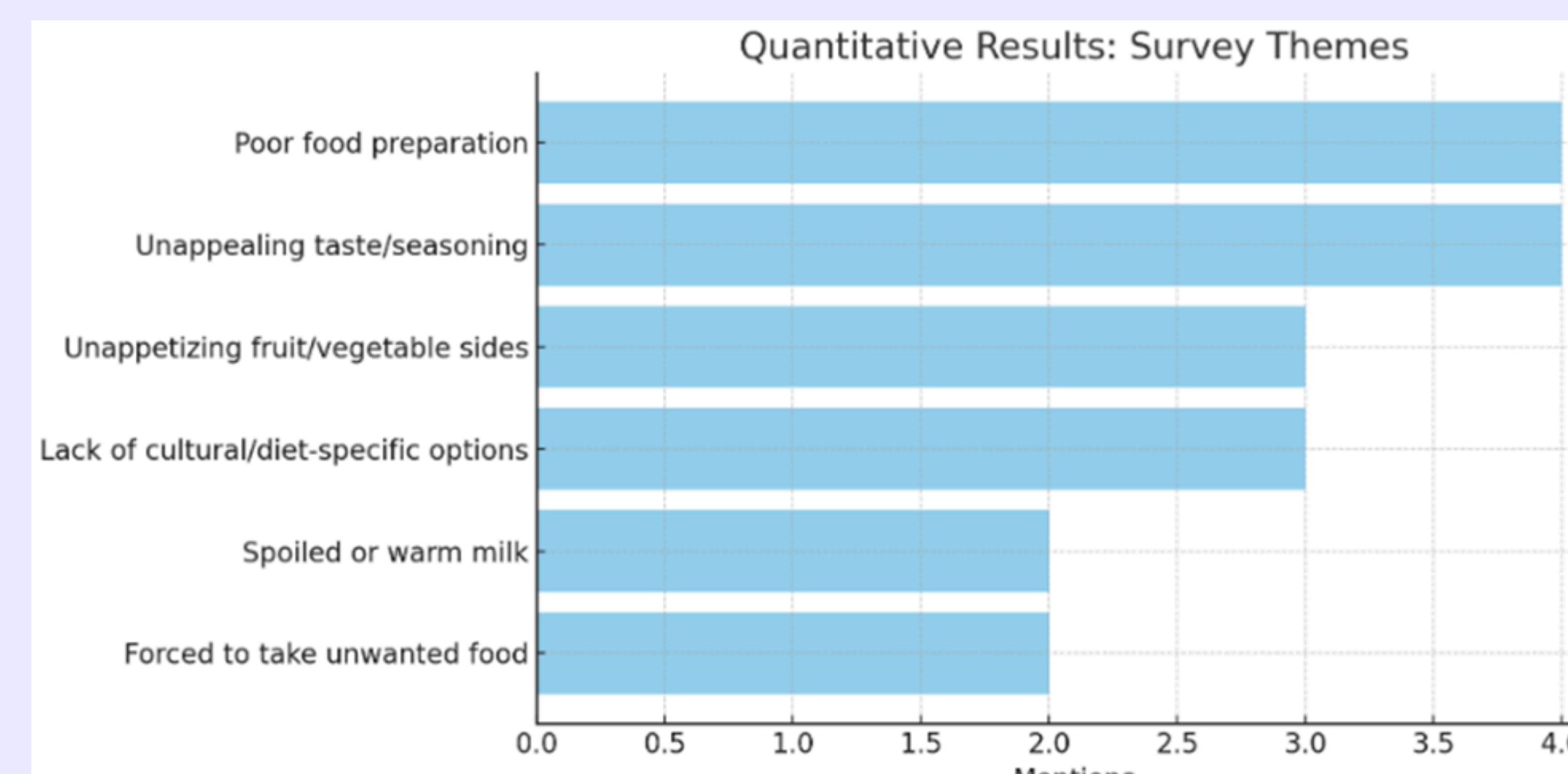
To gain a deeper understanding of the survey findings, the study conducted semi-structured interviews with a selected set of 15 participants following the survey period. These interviews were designed to include representatives from all demographic groups, both high and low waste producers, and students reporting varying satisfaction levels. The interviews explored three key areas: first, it sought more detailed explanations for patterns observed in survey responses; second, it elicited personal food narratives and cultural connections to understand how students' backgrounds shaped their preferences; and third, it collected suggestions for meal improvements directly from the students. This qualitative component provided contextual data that helped explain and give meaning to the quantitative survey results.

A third component of triangulation was a content analysis of the school's monthly menu. I analyzed the consistency of offerings, presence of culturally responsive or vegetarian options, and rotation of fresh produce. This helped verify student complaints about meal repetition and lack of inclusive options.

### Findings

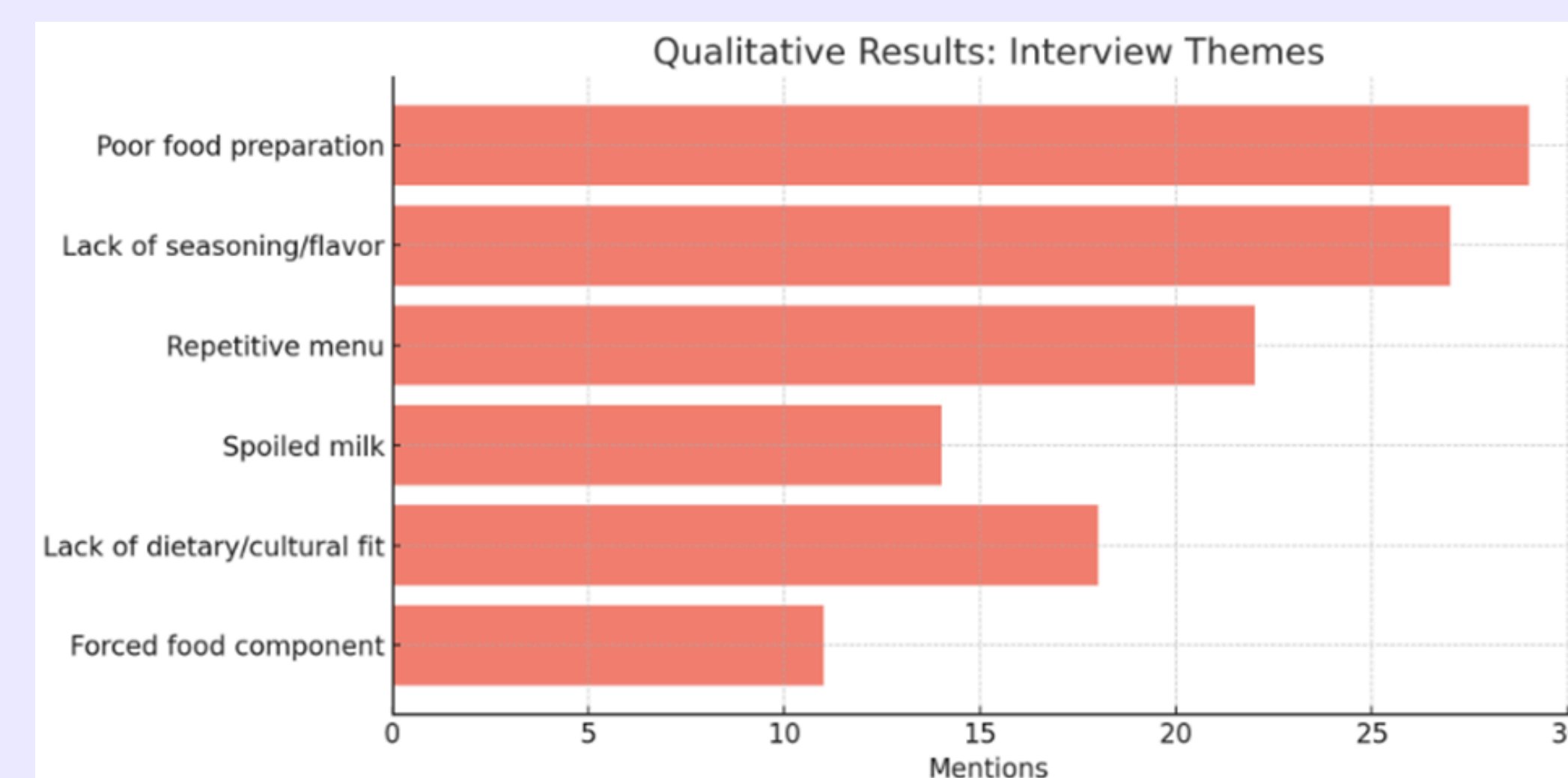
Quantitative Insights:

- Taste and Preparation:
- 73% of students discarded food due to poor taste or seasoning.
- 80% were dissatisfied with how food was prepared.
- Fruits, Veggies & Milk:
- 67% found produce unappetizing; 40% reported spoiled or warm milk.
- Cultural Fit & Choice:
- 53% said meals did not reflect their dietary or cultural needs.
- 33% felt forced to take unwanted items like milk or fruit.



Qualitative Insights:

Interview themes included poor quality (“tastes like cardboard”), lack of variety (“pizza and nuggets every week”), and frustration with mandatory items. Students with dietary restrictions—vegetarian, halal, dairy-free—reported having few or no viable options.



### Conclusion

The results of this study challenge the assumption that food waste stems from student irresponsibility or pickiness. Instead, dissatisfaction with taste, preparation, and cultural relevance appears to be the true barrier. When students are forced to take foods they cannot or do not want to eat, waste becomes inevitable—regardless of the meal's nutritional value on paper.

This research highlights a deeper issue: school lunches, though designed for nourishment, often lack the student-centered design required for real-world impact. Policy must consider student input if it hopes to reduce waste and improve outcomes. Future research should explore larger and more varied student populations, involve cafeteria staff in reform conversations, and assess the long-term impact of inclusive menu planning or taste-testing initiatives. Centering student voices in food service decisions is not just a matter of preference—it's a matter of policy effectiveness and public health.

### Future Research

To broaden the impact of this study, future research should expand to include a more diverse student population across multiple schools, districts, and regions. Doing so would help identify both widespread trends and localized differences in school lunch satisfaction and waste. Including the voices of cafeteria staff, administrators, and parents could offer a more complete understanding of the logistical and cultural challenges schools face. Their input would help triangulate student perspectives and reveal hidden barriers to effective nutrition programming. Future studies could also explore student-involved strategies, such as taste tests or menu planning, to assess how giving students agency might reduce waste. Long-term studies tracking food waste and satisfaction before and after such interventions could measure lasting change. Finally, comparing U.S. lunch programs to international models may uncover more successful practices in nutrition and satisfaction. Global case studies could inspire innovative, culturally relevant solutions that are both nutritious and appealing.