

## **Exposure to Free School Meals in Kindergarten Has Lasting Positive Effects on Students' Attendance**

**Samantha Trajkovski, Amy Ellen Schwartz, and Michah W. Rothbart**

### **KEY FINDINGS**

- Students exposed to Universal Free Meals (UFM) in kindergarten are less likely to miss school than students exposed to UFM later. This disparity shrinks but persists through grade 3.
- UFM does not appear to lead to adverse weight outcomes in kindergarten or later grades.
- Our findings support widespread adoption of UFM in kindergarten.

The National School Lunch Program (NSLP) is the second largest food assistance program in the country, serving free or reduced-price meals to 30 million students daily.<sup>1</sup> A growing number of schools and districts offer Universal Free Meals (UFM), which provides free meals to all students regardless of income. In the 2020-2021 school year, for example, 33,000 U.S. schools in 5,543 districts provided free meals to students.<sup>2</sup> While the short-term benefits of UFM on academic and health outcomes is well documented,<sup>3,4,5</sup> less is known about whether UFM's positive effects on school attendance and weight persist over the longer term.

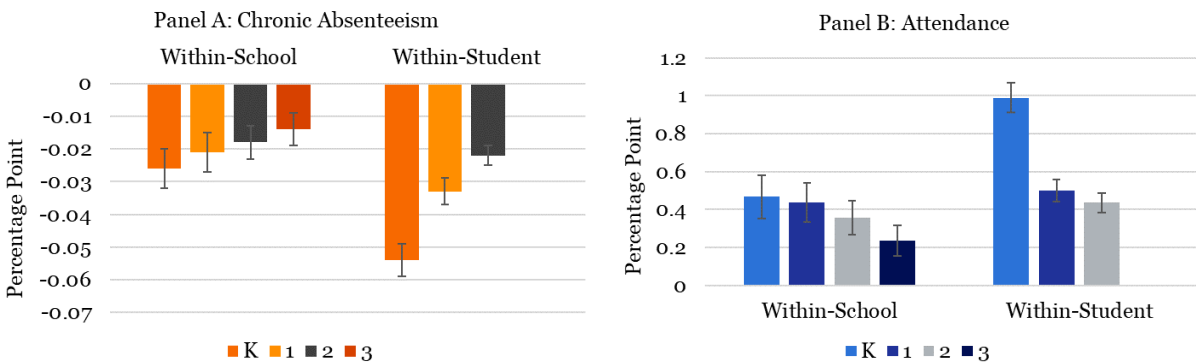
This brief summarizes the findings of our research examining the association between student academic and health outcomes and exposure to UFM in a sample of 132,353 NYC kindergarten students. Kindergarten is the foundational year of elementary school in which students are thought to learn key habits and behaviors that shape success in the longer term, but also the years with the highest chronic absenteeism rates among elementary school students. Using longitudinal administrative data on NYC public school students, we describe the relationship between exposure to UFM in kindergarten and attendance and weight outcomes in grades K-3.

We find that children who receive UFM in kindergarten have better school attendance in that year than children who do not receive UFM. We also find that the benefit of UFM on attendance persists (with some variation) in later years, even when accounting for socioeconomic differences between students who receive UFM and those who do not. We find no meaningful or statistically significant relationship between UFM receipt and student weight outcomes, suggesting free school meals in early elementary grades does not increase (nor decrease) obesity, underweight, or body mass index (BMI).

## Kindergarten Exposure to UFM is Associated with Higher Attendance and Lower Chronic Absenteeism.

Kindergarteners who receive UFM have higher attendance and lower chronic absenteeism than their peers who do not receive UFM. Specifically, kindergarten attendance is 1 percentage point higher (or an additional 1.8 days in school per year), and chronic absenteeism is 5.4 percentage points lower among kindergarteners with UFM than among kindergarteners without UFM. Higher attendance and lower chronic absenteeism persist into later grades for students who received UFM in kindergarten, although the disparity between these children and those who did not receive UFM shrinks over time. For example, the 5.4 percentage point decrease in chronic absenteeism in kindergarten shrinks to 3.3 percentage points in 1<sup>st</sup> grade and 2.2 percentage points in 2<sup>nd</sup> grade (Figure 1, Panel A). We see a similar pattern for attendance (Figure 1, Panel B).

These positive effects on attendance may reflect a direct effect of UFM on attendance, whereby the promise of a free school meal leads students to attend school more frequently. Such increases in school meal participation (or attendance) in kindergarten may lead to habit formation, which is consistent with our finding of a persistent, positive relationship of kindergarten UFM receipt on attendance in later grades. Further, UFM may increase participation in school meals.<sup>4,5</sup> As a result, UFM may have an indirect effect on attendance through children getting sick less often or increased motivation to attend school, but this indirect effect hinges upon school meal participation improving student health and/or academic motivations.



### Figure 1: Exposure to UFM in Kindergarten has Lasting Effects on Attendance Outcomes

*Data Source:* The sample is 132,353 NYC kindergarten students followed from K-3<sup>rd</sup> grade from 2009-2017, including only those students who were exposed to UFM at some point between K-3<sup>rd</sup> grade and make standard academic progress during that period. Within-school estimates exploit school-level variation in UFM status over time, estimating changes in attendance across different cohorts of students who attend the same school (these are “school fixed effects models”). Within-student estimates exploit student-level variation in UFM exposure over time, estimating changes in attendance as students are promoted to the next grade (these are “student fixed effects models”). Our reference group in the within-student models is grade 3.

## There is Little Evidence that UFM in Kindergarten Affects Student Weight

While we find students who receive UFM in kindergarten have worse weight outcomes (greater BMI, overweight, and obesity) in kindergarten, we find no evidence that this is

due to the program itself. Our estimates indicate there is no effect of UFM on weight outcomes, suggesting that, to some extent, the disparity in weight outcomes between those with and without UFM in kindergarten may be due to underlying or unobserved student characteristics, such as eating habits or activity level.

Concerns that UFM will harm student health by encouraging children to double-up on meals or switch to less healthy options have not borne out in empirical work.<sup>5,6,7</sup> This study adds to that evidence, extending it to students who receive UFM at the start of elementary school. While impacts on obesity, overweight, and BMI will depend on the nutritional value of school food, availability of alternatives, and the extent of changes in participation, the lack of effects in this context is encouraging.

## **Schools Should Widely Adopt UFM**

Our evidence from NYC suggests kindergarten UFM receipt may help improve attendance outcomes for kindergarten students, which have the highest chronic absenteeism rates among elementary school students.<sup>8,9</sup> Further, our results suggest early receipt of free meals can have a positive, lasting effect on attendance – at least through the early elementary grades - which may have important implications for later academic outcomes, including test scores<sup>9,10,11</sup> and high school completion.<sup>12</sup> Attendance has also been linked to long-term health outcomes, as chronic absenteeism is associated with drug use, teenage pregnancy, and other poor health outcomes.<sup>13</sup> We find no evidence that kindergarten UFM receipt has negative effects on student weight outcomes in either kindergarten or later grades, potentially helping alleviate concerns of UFM critics that free meals increase obesity rates.

Given our findings, we believe district and school leaders nationwide should consider adopting UFM. As more schools and districts adopt UFM, kindergarten students will begin their academic careers with access to free school meals, which can change their perceptions of school food and school more generally, and potentially improve academic outcomes in both the short and long run.

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## **Data and Methods**

This study draws on rich, longitudinal student- and school-level data for NYC public elementary school students from 2009-2017 from the New York City Department of Education. Our sample follows 6 cohorts of kindergarten students (132,353 unique students) from 2009-2014. Specifically, we exploit changes in UFM status over time within schools, comparing different cohorts of kindergarten students attending the same school who are exposed to UFM in kindergarten to those who are not. We then turn to models that follow the same students over time, estimating how kindergarten UFM exposure relates to within student changes in attendance and weight.

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## Acknowledgements

The authors acknowledge support from the Lerner Center Faculty Fellows Grant Program. We would like to thank the New York City Department of Education and the Office of School Food for data access and their continued support for this project. We also thank Meryle Weinstein, Willy Chen, and Stephanie Potts for their wisdom and support, as well as seminar and conference participants at Syracuse University, AAFP, RECS, and APPAM for useful comments and suggestions. Special thanks to Shannon Monnat and Alexandra Punch for their help in editing this brief. The opinions expressed are those of the authors and do not represent the views of the New York City Department of Education.

## Recommended Citation

Trajkovski, S., Schwartz, A.E., & Rothbart, M. (2023). Exposure to Free School Meals in Kindergarten Has Lasting Positive Effects on Students' Attendance. *Lerner Center Population Health Research Brief Series*. 208. <https://surface.syr.edu/lerner/208>

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