

# **Children's Food Waste Behaviour Between Concept-Based Education, Peers, and Family Influence. Insights from Primary School Canteens in Northern Italy**

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## **Abstract**

Information campaigns play an important role in the strategy to tackle consumer food waste. However, food waste results from deep-seated routines that are difficult to change by means of suasive policy interventions. This suggests that the provision of concept-based education in early years, when an individual's habits have not formed yet, could be a more effective approach for tackling this challenge than focusing on adults. To test this hypothesis, we carried out research on students in the last two years of primary school in the Province of Modena, Northern Italy. We developed a novel protocol to assess the effects on students' food waste behaviours at school and at home of a lessons on the environmental impact of food waste. Our protocol consists of three waves of questionnaires administered to students in different times of the year; two questionnaires administered to their parents; a half-day interactive lesson implemented in half of the classes (randomly extracted) in correspondence of the second wave; and behavioural economic experiments implemented during the first wave. The questionnaires included also questions to detect different types of social networks within each class. This approach allowed us to test the impact of the lesson while controlling for the influence on students' food waste behaviours of their classmates, and of their parents' approach to wasting food. We estimated multilevel proportional odds models to identify the variables affecting the frequency of food waste in school canteens and at home, and students' perception of their own food waste in the same settings. We find that concept-based education has only a short-term (reduction) impact on self-declared food waste at school, and that parents' approach makes no significative difference, although children perceive

their own waste level as lower if parents link food waste to environmental concerns. Instead, imitation seems to play an important role, as students' frequency of food waste tends to align to the frequency of students sitting nearby in school canteens. Finally, behavioural factors such as care for the public good are not related with one's food waste. These results call policymakers to take account of network effects, and to favour the observation and replication of virtuous behaviours in social settings, rather than focus purely on concept-based education. School canteens, and by extension workplace canteens, represent an ideal setting to promote a more responsible approach to food use.

**Keywords:** children behaviour, food waste, school canteens, education, networks

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