



# The Effects of Food Waste Education on Student Knowledge, Attitudes, and Plate Waste

REBECCA BUSSE

PURDUE UNIVERSITY-DEPARTMENT OF FORESTRY AND NATURAL RESOURCES

NACTA JUNE 14<sup>TH</sup> 2018

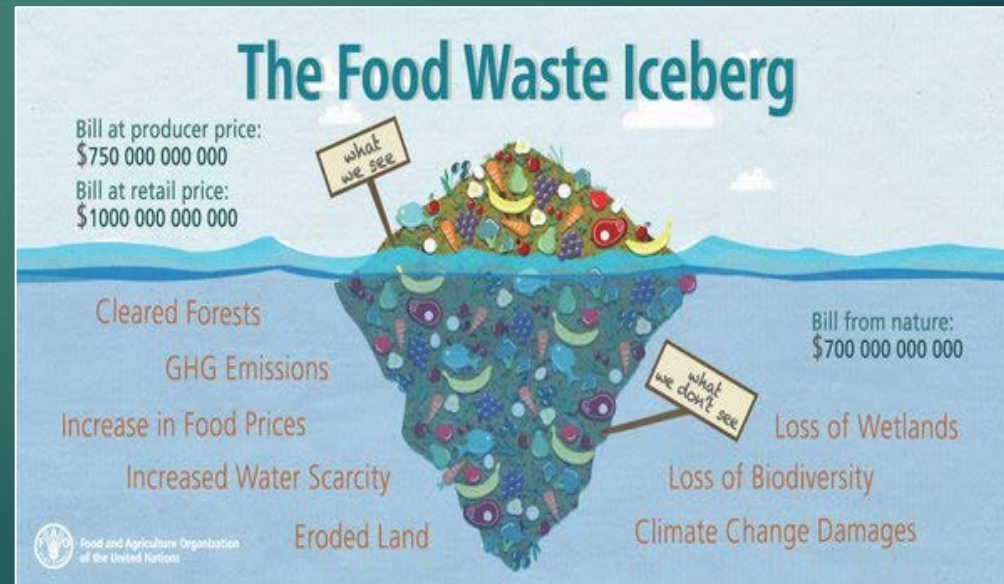


# The Food Waste Problem

- 30-40%, or 133 billion lb. food is wasted in the U.S.
- U.S. schools spend > \$1 billion on wasted food annually-26% of their food budget
- Largest component of school waste



Enough to fill Lucas Oil Stadium every day for a year!

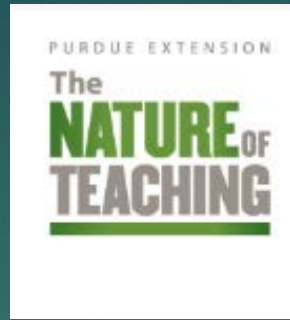


# Addressing A Need

- Limited lessons
- Environmental education
- Limited research



# Lessons Used

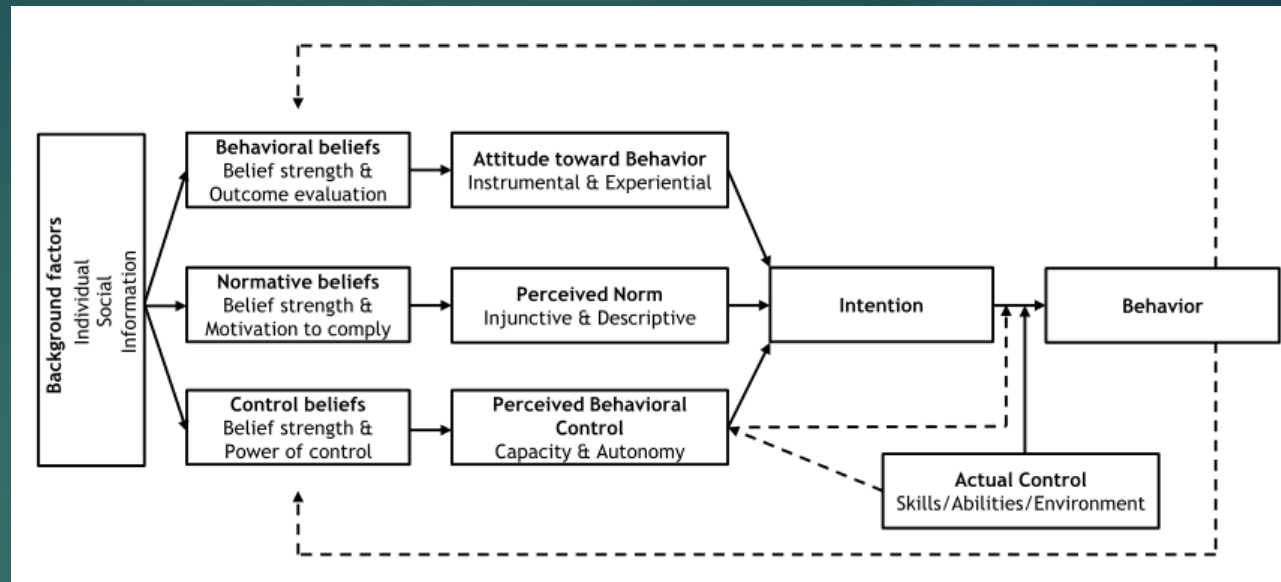


- ▶ Food Waste and the Environment
- ▶ Solutions to Food Waste
- ▶ Pick on ME

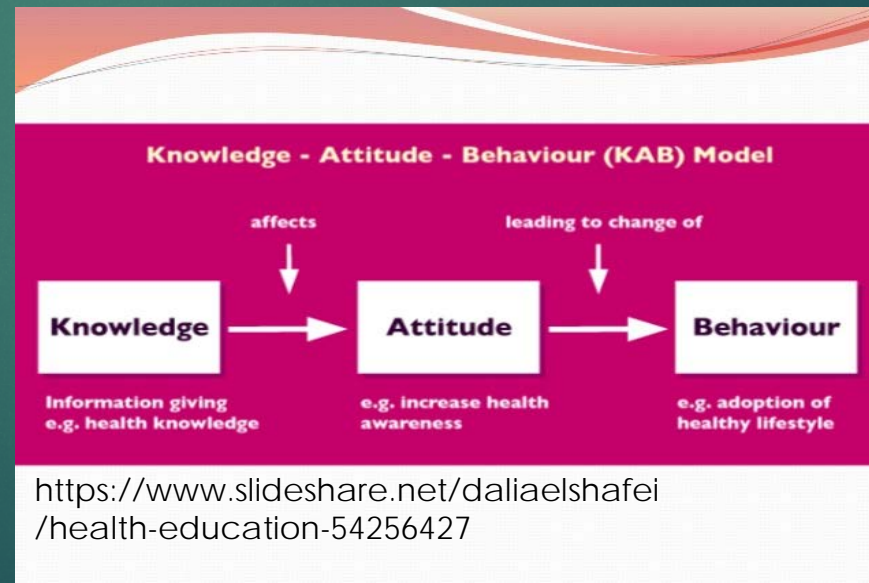


# Goals

- ▶ Improve
  - ▶ Knowledge
  - ▶ Attitude
  - ▶ Behavior
  - ▶ Behavioral intention
  - ▶ Knowledge perception
- ▶ Reduce food waste

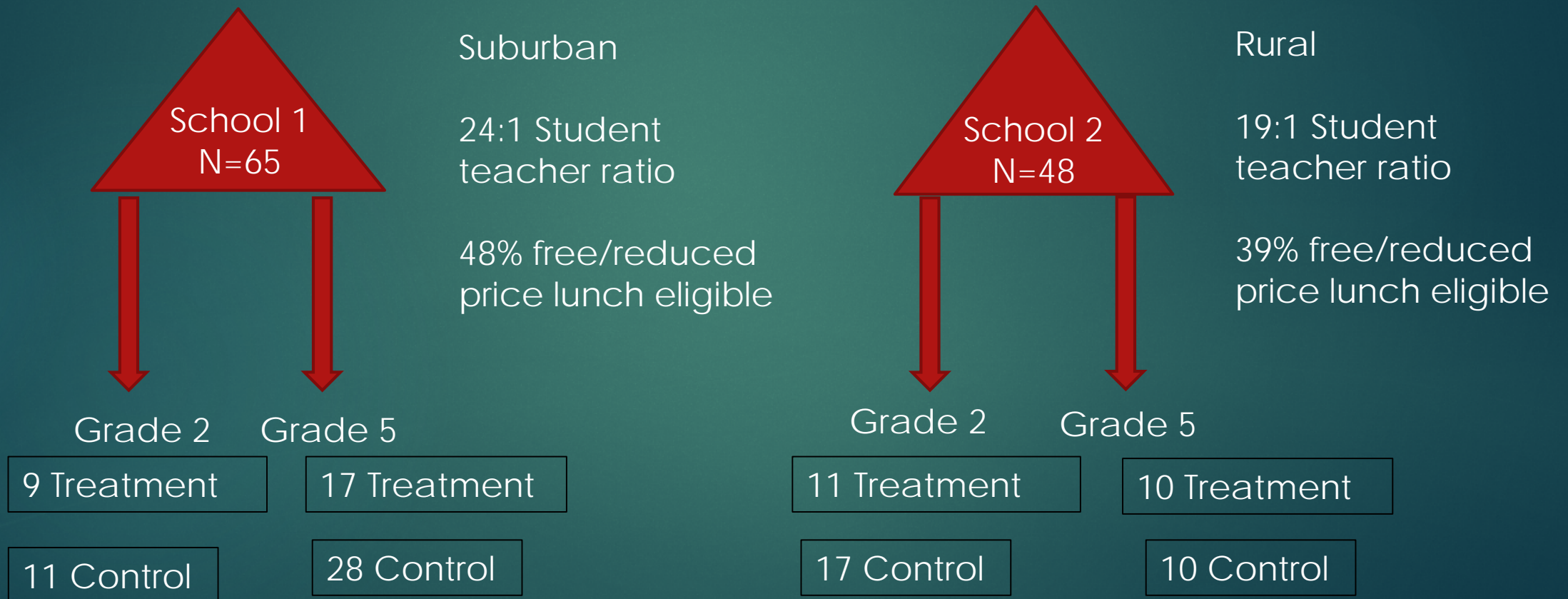


By Gjalt-Jorn Peters - Own work, CC BY-SA 3.0, <https://commons.wikimedia.org/w/index.php?curid=28236413>



# Experimental Design

- ▶ 2<sup>nd</sup> and 5<sup>th</sup> grade students in two Indiana schools



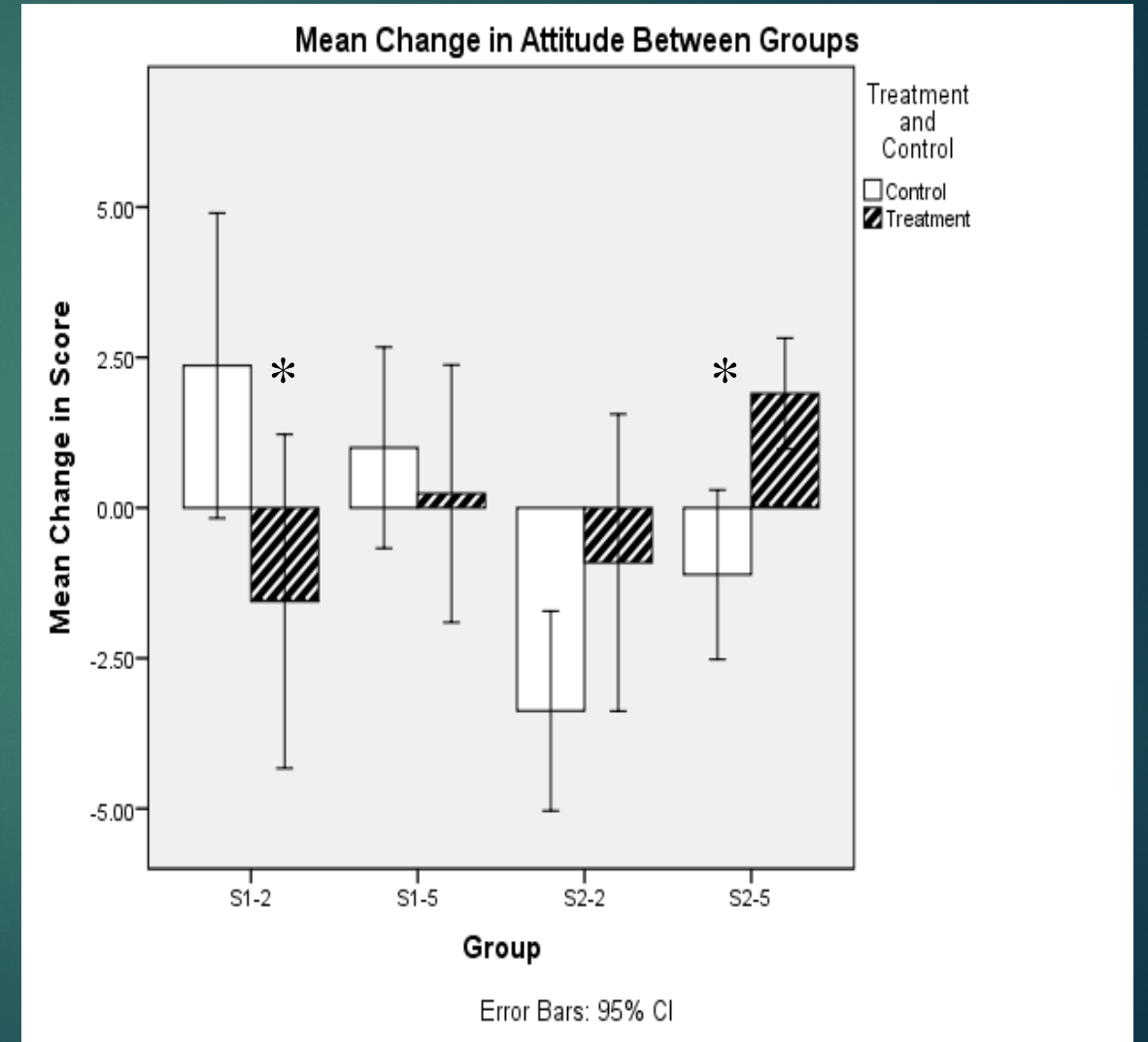
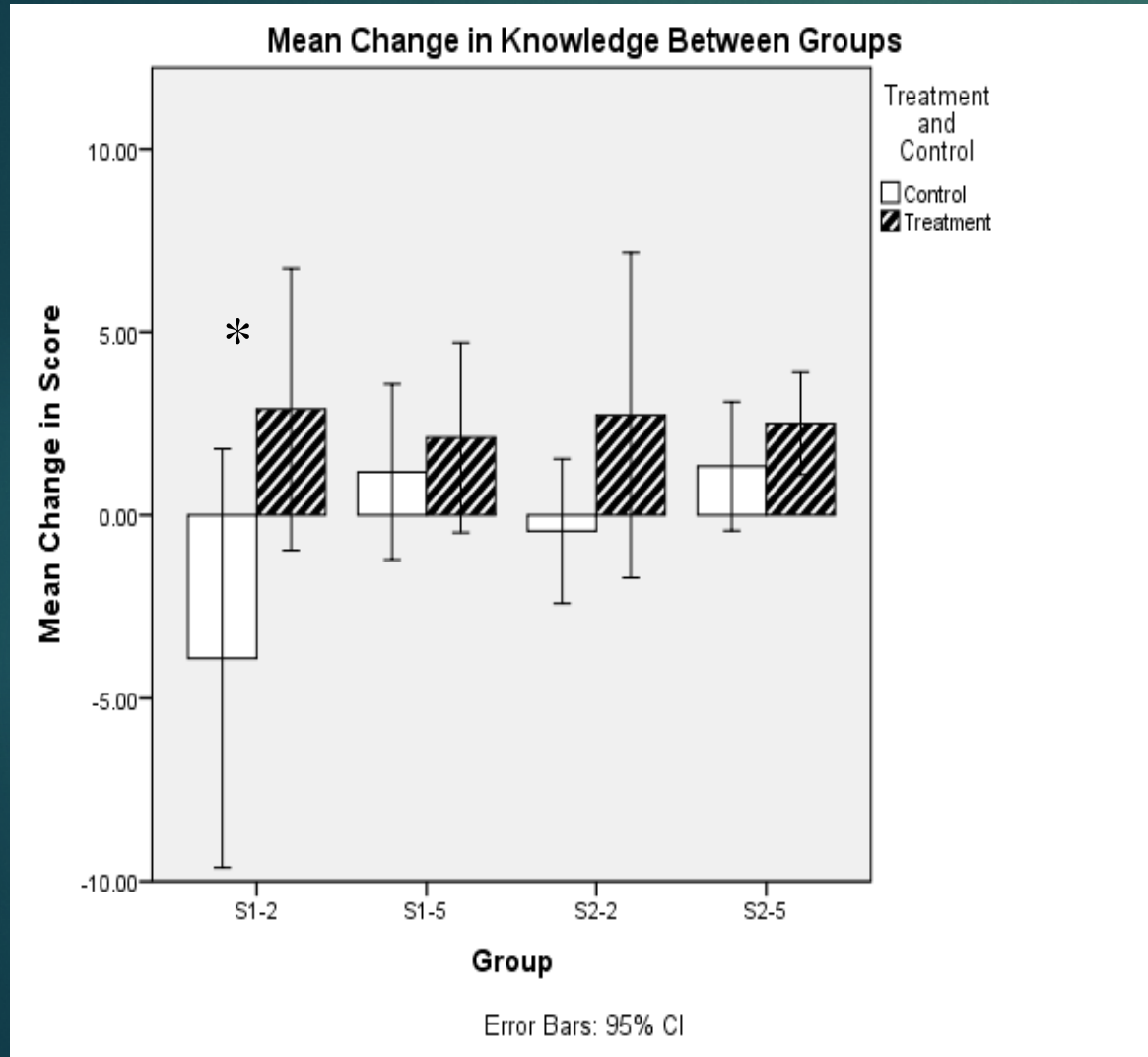
# Methods Outline

- ▶ Student surveys
- ▶ Student interviews
- ▶ Weighing food waste



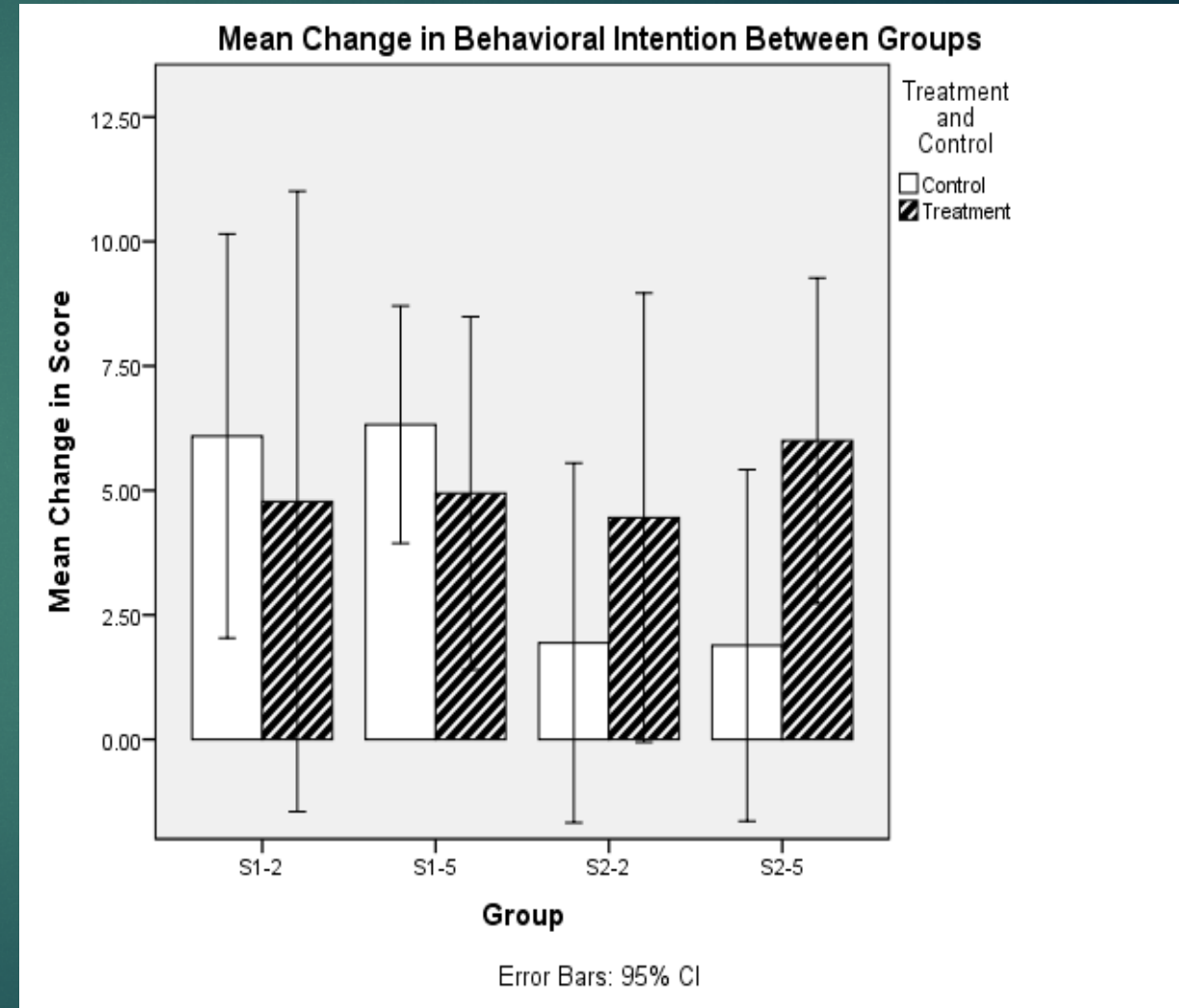
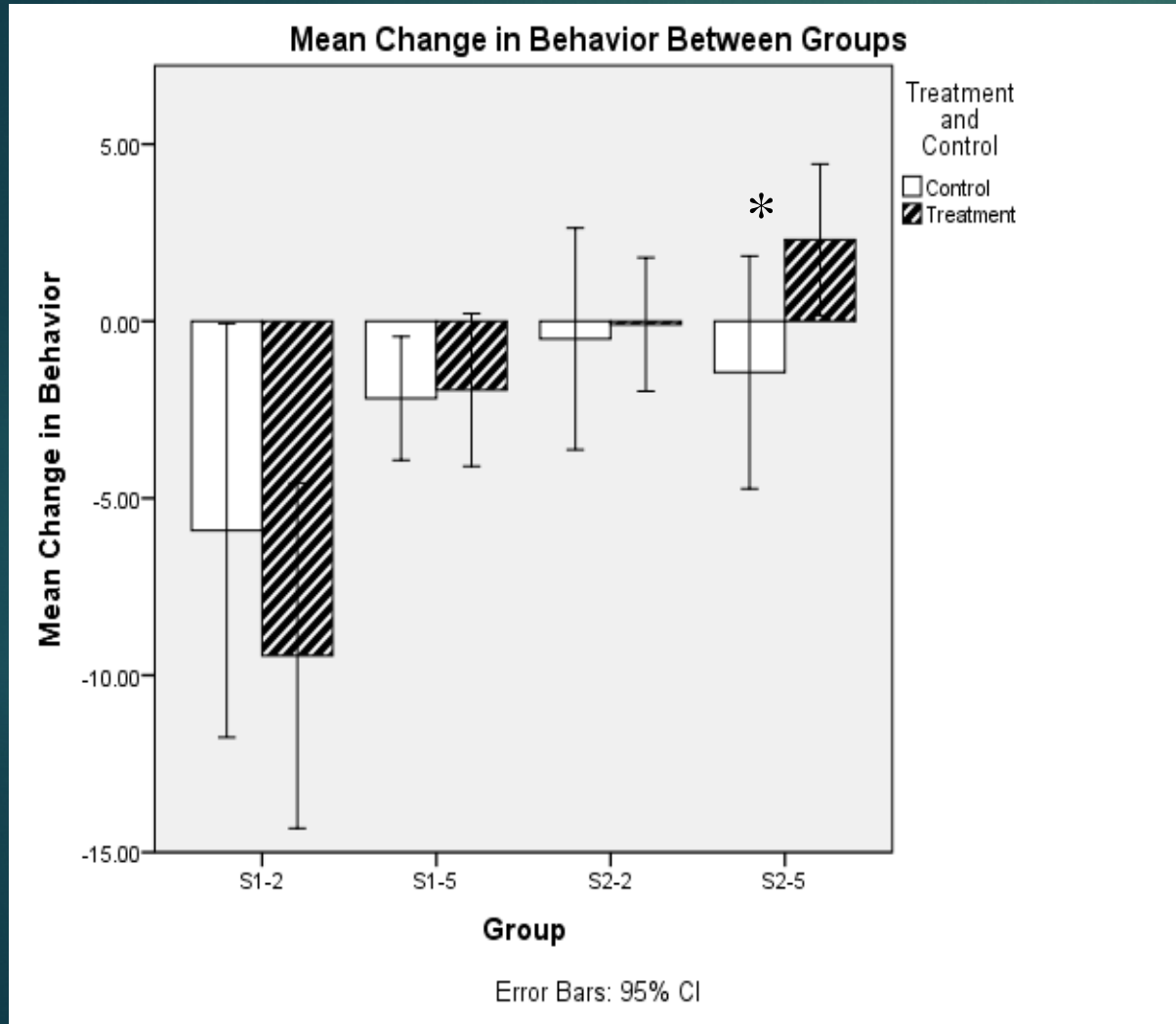
<http://www.schoolrecycling.net/news/school-news-you-can-use/school-news-you-can-use-may-2015/>

# Survey Results Change





# Survey Results Change Continued



# Survey Conclusions

10

- ▶ Most responses varied by school and grade
  - ▶ Grade levels: Fifth grade learn more environmental topics; younger students are more picky
  - ▶ Schools: School 2 rural and lower student: teacher ratio, lower free/reduced lunch population



<https://www.greatschools.org/gk/articles/5th-grade-science-worksheets/>



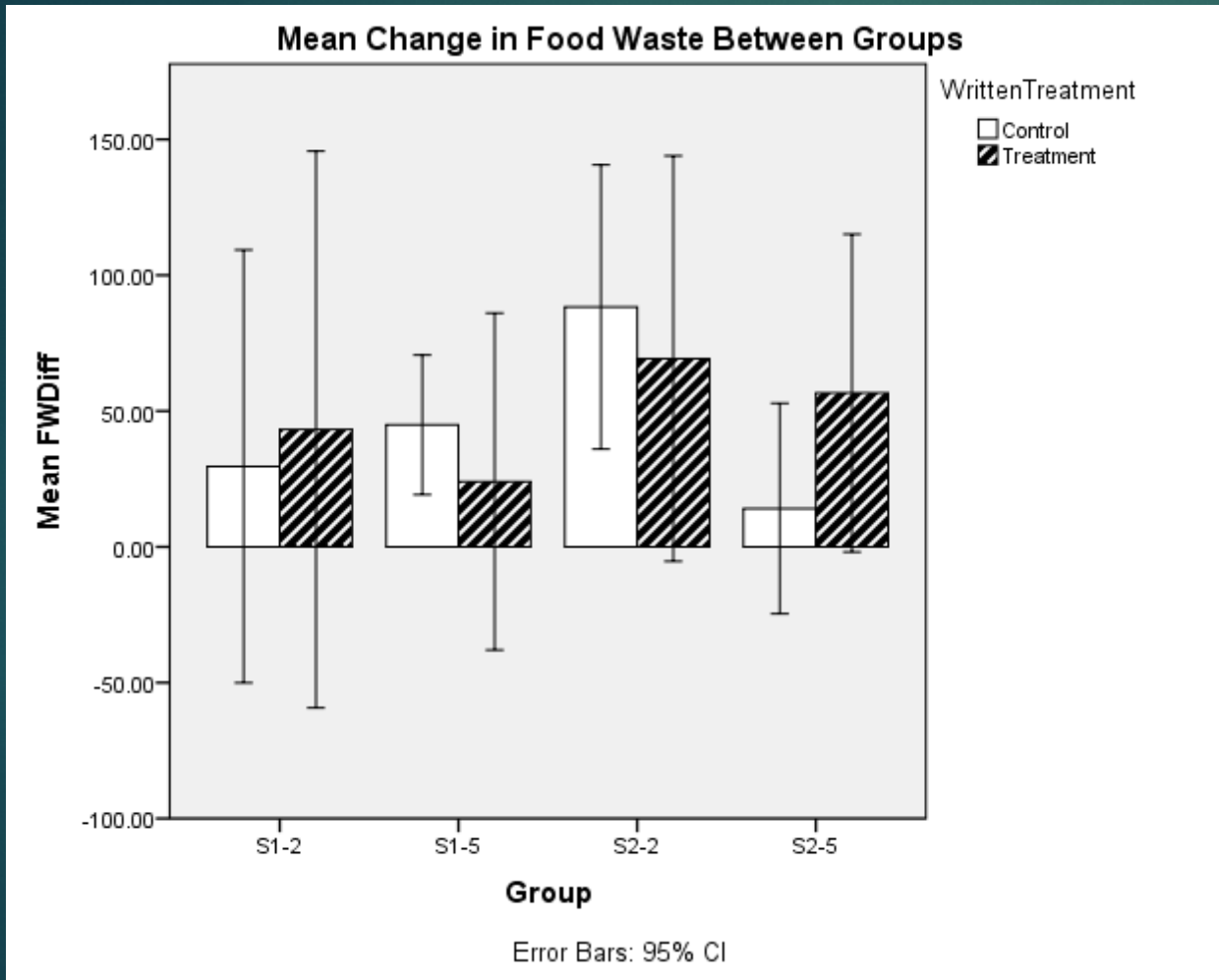
<https://www.wsj.com/articles/what-picky-eating-might-mean-for-children-later-1438621171>

# Interview Results-max variation sampling (upper and lower)

- ▶ Knowledge: more upper-scoring treatment students knew what food waste is (source of variation)
- ▶ Fifth graders more likely to know environmental effects and where food waste goes post-education
- ▶ Fifth graders greater perceived control than second graders (source of variation)
- ▶ All treatment students more likely to mention communication and more solutions post-education

# Food Waste Results

12



- Researcher presence
- Communication between students

# Overall Conclusions

- ▶ Food waste environmental education is effective at increasing student knowledge
- ▶ Students were more likely to mention communication as a solution to food waste
- ▶ Students knew more solutions to food waste
- ▶ Differences in demographics
- ▶ Perceived control influential
- ▶ Reduced student food waste
  - ▶ Researcher presence and communication

# Questions?

