From Kindergarten Through Second Grade, U.S Children's Obesity Prevalence Grows Only During Summer Vacations

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Background

Previous studies on topic

- Sample sizes
- Year study was conducted
- Amount of time spent following subjects

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Objective

Estimate whether overweight and obesity prevalence grows faster during the school year or during summer vacation

Assess the relative importance of school and non-school risk factors in relation to childhood obesity

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Objective

- School Risk Factors
  - School meals
  - Competitive foods
  - Physical Education
  - School environment

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Objective

- Non-school Risk Factors
  - Screen time
  - Child-directed food marketing
  - Lack of summer school programs/camps
  - Lack of nutritional education

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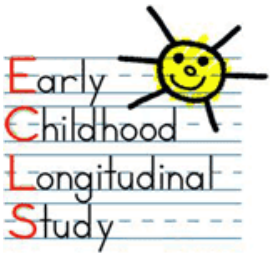
Methods

- Sample & Design
  - The Early Childhood Longitudinal Study, Kindergarten Class of 2010-11 (ECLS-K: 2011)
  - Analytical sample of 13,006 children from 846 schools



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Methods

- Children's heights & weights were measured each fall and spring
  - Fall measurements taken 5 to 7 weeks after the first day of school
  - Spring measurements taken 8 weeks before the last day of school

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Statistical Analysis

A multilevel growth model was used to estimate growth in mean BMI, overweight prevalence and obesity prevalence during each summer and each school year.

Statistical analysis was done to estimate:

- **Mean growth rates**
- **Variation of growth rates between children & schools**
- **Association of growth rates with demographic covariates**

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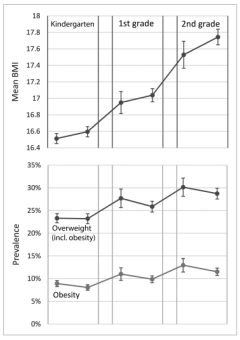
Results

- Prevalence of obesity increased from 8.9% to 11.5%
- Prevalence of overweight increased from 23.3% to 28.7%
- Mean BMI grows in every period, however it grows faster in the summers than during the school years



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Results

All increases in obesity & overweight prevalence's occurred during the two summer vacations

No increase occurred during any of the three school years

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Discussion

- Findings suggest that the major risk factors for childhood obesity lie outside of the schools.
- Schools may reduce the risk of overweight prevalence from increasing during the school year

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Discussion

What behavioral changes explain the acceleration of BMI growth during the summer?

If obesity prevalence increase only during the summer, how much more can schools do to decrease obesity?

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Clinic Practices

How many minutes of activity does your child get during a school week?

What does your child have access to during the summer months?

Who is caretaking for your child during the summer?

What are the biggest barriers to activity that your family face?

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References

von Hippel PT, Workman P. From kindergarten through second grade, U.S. children's obesity prevalence grows only during summer vacations. *Obesity 2016; 24: 2296-2300.*

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