

# Showing up to class is not enough

*Policies that only require PE attendance do not reduce socioeconomic disparities in physical activity*

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Bridging the Gap  
University of Illinois at Chicago

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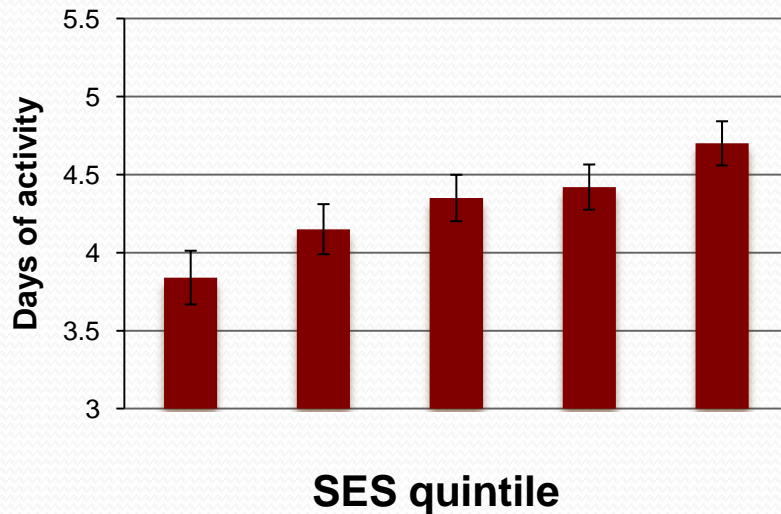
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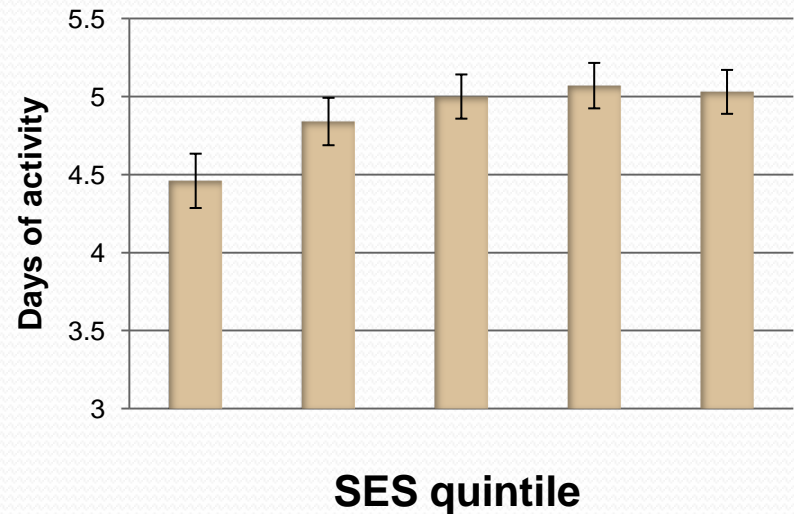
# SES disparities in activity

- Several studies have found that adolescents of low socioeconomic status (SES) tend to be less active

**GIRLS**



**BOYS**



\* Source: Early Childhood Longitudinal Study-Kindergarten Class (ECLS-K) – 8<sup>th</sup> grade data

# Forcing kids to go to gym class

- Medical, public health, and policymaking organizations have called for schools to take the lead in promoting physical activity
- Most states have enacted some type of law that requires physical education (PE) attendance as a way of increasing activity
- Many students do not get recommended amounts of PE
  - NASPE recommendation: **225 minutes of PE per week**
  - Eighth-grade students averaged **179.9** mins/wk in 2004-07\*

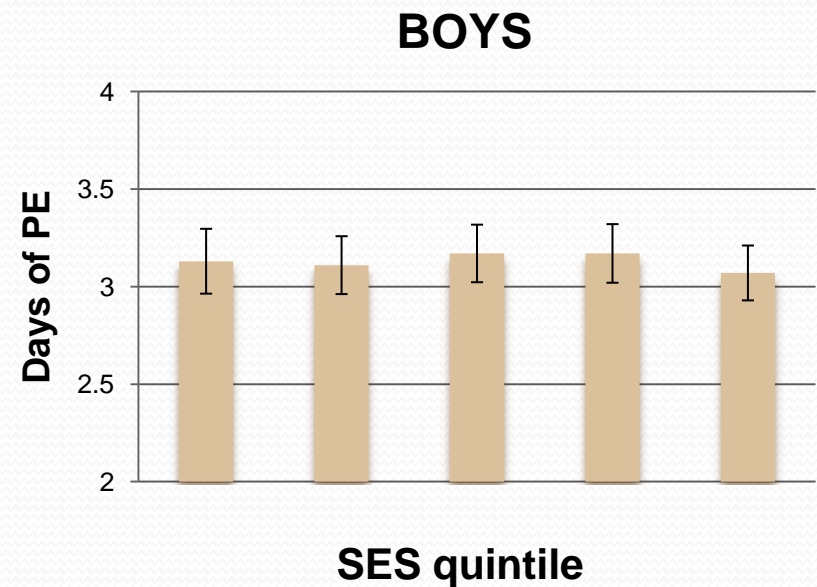
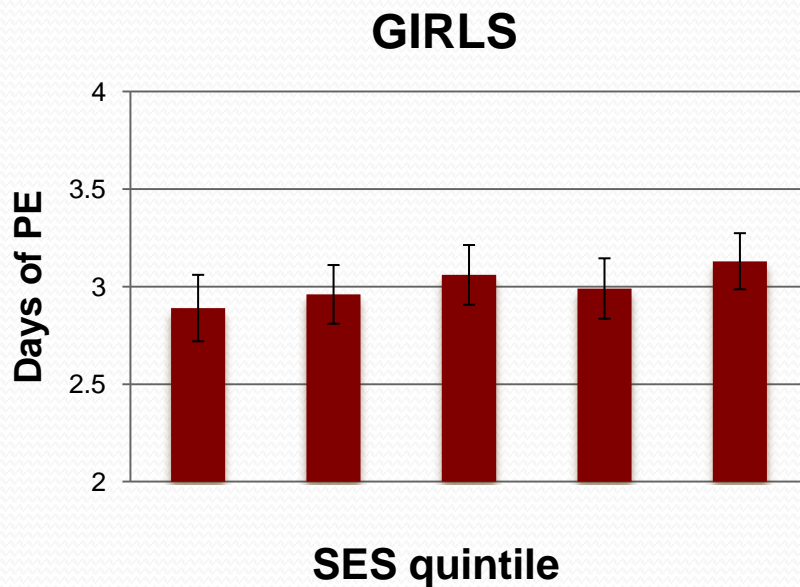
\* Source: O'Malley et al., 2009, *Journal of Adolescent Health*

# Will PE requirements reduce disparities?

- Two reasons to doubt that such laws will reduce socioeconomic disparities in PA:
  - 1) Forcing kids to attend PE class does not ensure that they are physically active during PE class
  - 2) Low-SES youth tend to be less active in spite of getting equal amounts of physical education

# SES disparities in PE attendance?

- Little evidence that PE attendance is a major source of socioeconomic disparities



\* Source: Early Childhood Longitudinal Study-Kindergarten Class (ECLS-K) – 8<sup>th</sup> grade data

# Perception vs. Reality

Our images of physical education:



# Perception vs. Reality

Me during gym class when I was 13 years old:





# Lack of activity during PE

- Many reasons why students may not be sufficiently active during PE class
  - Psychosocial barriers
  - Class size
  - Teachers who are not PE specialists
- Some states have gone beyond requiring PE attendance by requiring a minimum amount of MVPA during PE

# Objective

- Compare socioeconomic disparities in physical activity in 3 categories of states:
  - 1) States that require a minimum amount of PE class time and require a minimum amount of activity during PE class
  - 2) States that only require a minimum amount of PE class time
  - 3) States that do not require either

# Policy data

- Codified laws regarding PE time requirements and minimum MVPA during PE class
- Laws obtained from Westlaw and Lexis-Nexis legal research databases
- Double-coded by two trained coders and verified against secondary sources
- Collected as part of Bridging the Gap research program

# Student data

- Early Childhood Longitudinal Study – Kindergarten Class (ECLS-K)
- N=6300 eighth-grade students in 40 states
- Outcomes of interest:
  - Days of PE class per week
  - Days of PA per week
- SES was measured using an index that combined 5 measures on parental education, occupation, and income

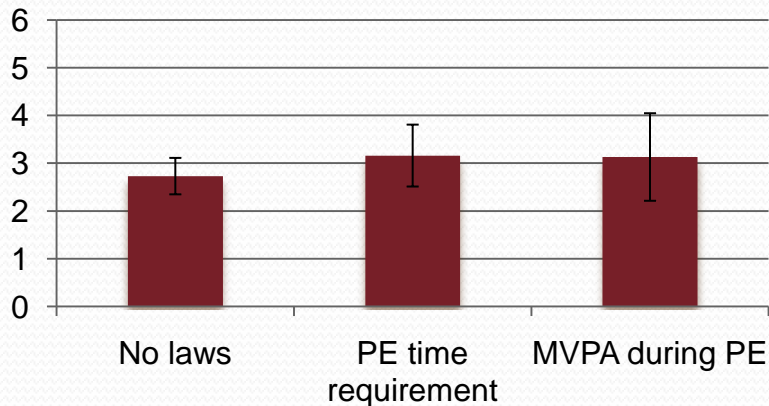
# Statistical Analysis

- Generalized estimating equations (GEE) used to account for within-state correlation
- GEE models used to estimate differences between state law categories in:
  - Days of PE per week
  - Days of PA per week
  - Difference between SES quintiles in PA
- Stratified by gender

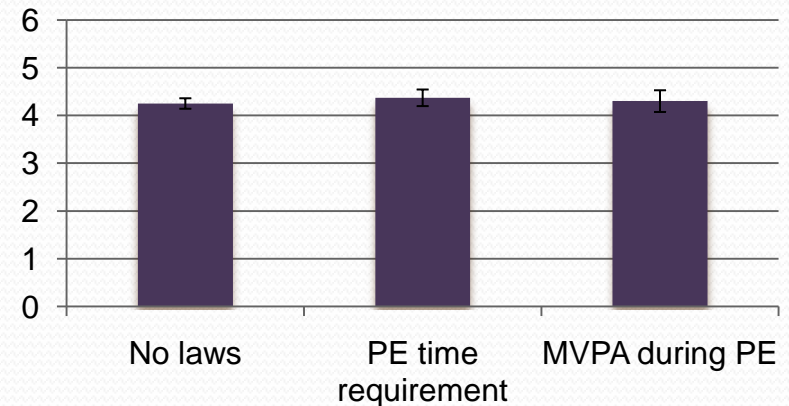
# Results - Girls

- Overall, PE attendance was slightly higher in states with either type of PE law\*
- Zero association between state laws and PA\*\*

**Days of PE**



**Days of PA**



\* Controlled for race, Census region, locale

\*\* Controlled for race, Census region, locale, TV viewing, and sports participation

# A Tale of Two States

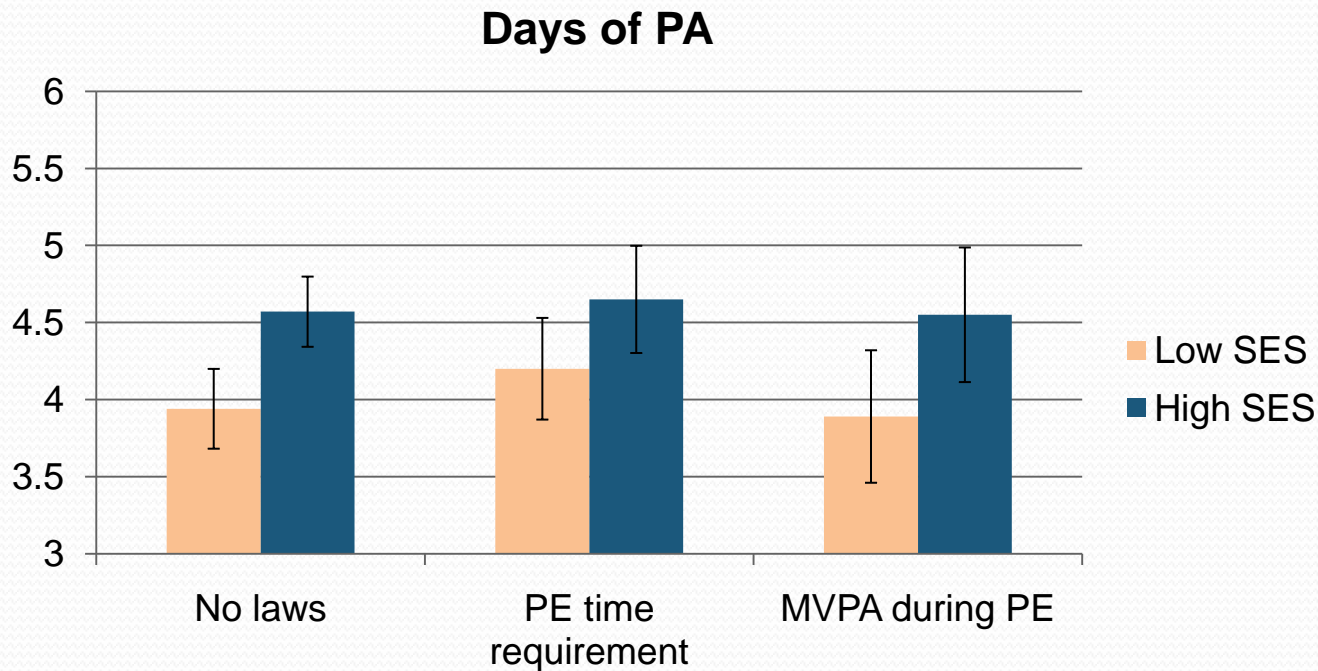
- Any effect of PE time requirements on PE attendance depends largely on exactly what the state requirement is
- Consider 2 states
  - Two of the most obese states in the U.S.
  - Neighbors to each other
  - Both have time requirements\*:
    - State A requires 50 mins/wk
    - State B requires 250 mins/wk

Requirement	Days of PE	
	Mean	95% CI
None	2.8	2.7, 2.9
50 mins/wk	2.3	1.7, 2.9
250 mins/wk	4.4	4.1, 4.8

\* Requirement in 2008-09

# Results - Girls

- No reduction in SES disparities in states with either type of PE law





# Results - Boys

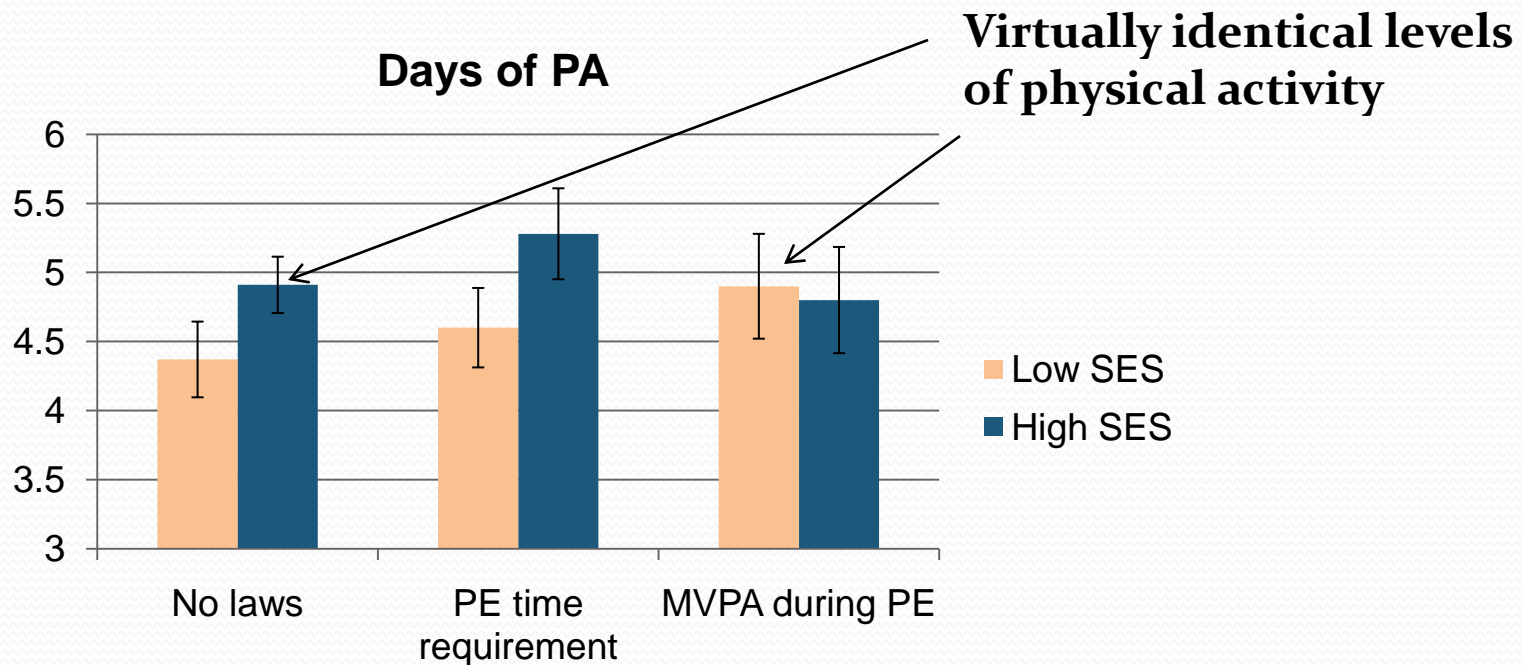
- Overall, mean PA levels were higher in states with either type of PE law\*

State law	Mean	Adjusted difference	
		$\beta$	95% CI
None	4.78	-	-
Time requirement	5.07	0.29	0.07, 0.50
MVPA during PE	5.04	0.25	-0.01, 0.52

\* Controlled for race, Census region, locale, TV viewing, and sports participation

# Results - Boys

- SES disparities were significantly smaller ( $\beta=-0.64$ , 95% CI: -1.25, -0.03) in states that required a minimum amount of MVPA during PE



# Summary

## *BOYS*

	STATE POLICY	
	Require PE attendance	Require MVPA during PE
Increase activity?	Yes	Yes
Reduce disparities?	<b>NO</b>	Yes

## *GIRLS*

	STATE POLICY	
	Require PE attendance	Require MVPA during PE
Increase activity?	<b>NO</b>	<b>NO</b>
Reduce disparities?	<b>NO</b>	<b>NO</b>

# Limitations

- Cross-sectional design
- PE and PA data were self-reported
- No data on PA during PE class
- Results may be biased by other types of policies (e.g., teacher certification requirements)

# Implications and future research

- State laws that require PE attendance should be complemented with laws that are designed to engage students within class
- Clearly, additional research is needed to identify policies that increase activity among adolescent girls
- Other topics to consider:
  - How the impact of PE policies is modified by policies or neighborhood factors outside of school (e.g., crime rate, urban containment policies)
  - Effects of PE policies at higher grade levels

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