
Linda Schneider, MS, Research Specialist
lschne4@uic.edu

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Presentation Overview

• Background and purpose
• Study methods
• Characteristics of district policies for school year 2011-12
  • Physical Education (PE)
  • Physical Activity (PA)
• Factors influencing district PE and PA policies
• Policy and research opportunities
• Resources/contacts
Background and Purpose
National PE/PA Recommendations

• The Institute of Medicine recommends that local school districts should ensure that all students in grades K-12 have adequate opportunities to engage in **60 minutes of physical activity per school day**, including active transport programs, intramural sports programs, after-school programs, classroom breaks, integration of PA into curricula lesson plans, and recess.\(^1\)\(^-\)\(^2\)

• All students K-12 should have access to a quality standards-based **daily** physical education program (that addresses curriculum time, class size, and employment of certified, highly qualified physical education teachers) aligned with National Standards.

• At least **50%** of PE time should be spent in MVPA.

• NASPE PE time recommendations:\(^3\)
  • **150 minutes per week** of instructional PE for ES students for the entire school year.
  • **225 minutes per week** for MS/HS students for the entire school year.

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Purpose

• To highlight characteristics of districts with various types of PE and PA policies from a nationally representative sample of U.S. public school districts for the 2006-07 through 2011-12 SY.
Study Methods
Methods

- Ongoing nationwide evaluation of school district wellness policies required as of 1st day 2006-07 school year (SY) under P.L. 108-265, Section 204
  - Required wellness policy elements: goals for nutrition education, school meal requirements, competitive food guidelines, goals for physical activity, and implementation plans; also included provisions for physical education.
- Annual, cross-sectional nationally-representative samples of public school districts: SY 06-07 (n=543), SY 07-08 (n=602), SY 08-09 (n=572), SY 09-10 (n=603), SY 10-11 (n=679), SY 11-12 (n=668)
- Primary policy collection and analysis, included wellness policy, all associated regulations/guidelines/procedures, cross-referenced policies/models/state laws
- Policies double-coded by grade level using adaptation of Schwartz et al.\(^4\) (2009)

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Coding Methods and Variables

• Policies evaluated using an ordinal coding scheme:
  • 0: No policy/provision
  • 1: Weak policy/provision (should, encourage, may, try, attempt)
  • 2: Strong policy/provision (must, shall, require)

• Policy topics coded:
  • Physical Education
    • K-12 PE curriculum
    • Required number of PE minutes/week
    • Promotes physically active lifestyle
    • Assessment of knowledge, skills, and practice
    • Time spent in MVPA
    • Qualifications of PE teachers
    • Training for PE teachers
    • Prohibits waivers from PE
    • PE credits required for HS graduation
  • Physical Activity
    • FW: Goals for PA
    • PA required all grades K-12 outside PE
    • Required minutes PA per day/week
    • PA integrated into the core curriculum
    • Community use PA facilities
    • Daily (ES) recess
Analytic Methods

- **Descriptive statistics** were computed, clustered to account for the sample design, and weighted to %age of districts nationwide with given policy provision.

- **Multivariate logistic regression** models examined the factors influencing having a strong (required) policy provision adjusting for:
  - The associated state law, district racial/ethnic composition (ref=Majority White), region (ref=South), locale (ref=urban), free-reduced lunch participation (FRL)/socioeconomic status (SES) (ref=high SES), and school year (ref=SY 06-07).

- To ease interpretation, the **adjusted prevalence** of each policy provision was generated after controlling for all covariates. Significant predictors (after adjustment) are presented if statistically related at the p<.05 level.

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Physical Education & Physical Activity
District Policy Provisions, SY 11-12
Physical Education Provisions for SY 2011-12

- PE curriculum at each grade K-12
- Required number of PE minutes/week
- Promotes a physically active lifestyle
- Assessment of knowledge, skills, practice

* Significantly different from 2006-7 SY p ≤ 0.05

*ES *MS *HS

Suggested Required

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Physical Education Provisions for SY 2011-12 (continued)

* Significantly different from 2006-7 SY p ≤ 0.05

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Physical Education Provisions for SY 2011-12 (continued)

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* Significantly different from 2006-7 SY p ≤ 0.05

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Physical Activity Provisions for SY 2011-12

FW: Goals for PA

*ES  *MS  *HS

PA required all grades K-12 outside PE

*ES  *MS  *HS

Required minutes of PA per day or week

ES  MS  HS

* Suggested

* Required

* Significantly different from 2006-7 SY p ≤ 0.05
Physical Activity Provisions for SY 2011-12

- **PA integrated into core curriculum**
  - ES
  - *MS
  - *HS

- **Community use of PA facilities**
  - ES
  - *MS
  - *HS

- **Daily recess (ES)**

* Significantly different from 2006-7 SY p ≤ 0.05
Factors Influencing District PE and PA Policy Provisions
### Influence of state laws on district policy after controlling for all other covariates*

<table>
<thead>
<tr>
<th>District Policy</th>
<th>State Law: No (Ref)</th>
<th>State Law: Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>PE curriculum all grades</td>
<td>30.3%</td>
<td>43.0%</td>
</tr>
<tr>
<td>PE competency assessment</td>
<td>26.8%</td>
<td>46.3%</td>
</tr>
<tr>
<td>PE teacher qualifications</td>
<td>22.4%</td>
<td>37.1%</td>
</tr>
<tr>
<td>PE teacher training</td>
<td>11.7%</td>
<td>41.3%</td>
</tr>
<tr>
<td>PE waiver prohibited</td>
<td>5.7%</td>
<td>12.1%</td>
</tr>
<tr>
<td>PE time meets NASPE std. for ES</td>
<td>3.0%</td>
<td>14.6%</td>
</tr>
<tr>
<td>PE credits required for graduation</td>
<td>6.6%</td>
<td>17.2%</td>
</tr>
<tr>
<td>Daily recess for ES</td>
<td>19.6%</td>
<td>38.0%</td>
</tr>
</tbody>
</table>

*Adjusted prevalence of district policy occurring based on state law status controlling for all other covariates. All models presented are statistically significant at the p<.05 level or lower in multivariate logistic regression models. ns=not stat. sig. with adj.

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Relationship between district-level socioeconomic status and district policy, after controlling for all other covariates*  

<table>
<thead>
<tr>
<th>District Policy</th>
<th>High SES (Ref)</th>
<th>Mid SES</th>
<th>Low SES</th>
</tr>
</thead>
<tbody>
<tr>
<td>PE curriculum all grades</td>
<td>31.6%</td>
<td>42.3%</td>
<td>41.7%</td>
</tr>
<tr>
<td>PE teaches PA lifestyle</td>
<td>46.6%</td>
<td>58.9%</td>
<td>57.3%</td>
</tr>
<tr>
<td>PE competency assessment</td>
<td>30.1%</td>
<td>40.0%</td>
<td>44.0%</td>
</tr>
<tr>
<td>PE teacher qualifications</td>
<td>21.0%</td>
<td>29.6%</td>
<td>32.0%</td>
</tr>
<tr>
<td>PE teacher training</td>
<td>7.2%</td>
<td>13.3%</td>
<td>16.4%</td>
</tr>
<tr>
<td>PE waiver prohibited</td>
<td>4.8%</td>
<td>4.9% (ns)</td>
<td>8.8%</td>
</tr>
<tr>
<td>Meets NASPE ES time std.</td>
<td>1.5%</td>
<td>3.2% (ns)</td>
<td>5.4%</td>
</tr>
<tr>
<td>Meets NASPE HS time std.</td>
<td>1.2%</td>
<td>2.9% (ns)</td>
<td>4.0%</td>
</tr>
<tr>
<td>Goals for PA</td>
<td>83.1%</td>
<td>88.1%</td>
<td>82.9% (ns)</td>
</tr>
</tbody>
</table>

*Adjusted prevalence of district policy occurring based on SES level, controlling for all other covariates. All models presented are statistically significant at the p<.05 level or lower in multivariate logistic regression models. ns=not stat. sig. with adj.

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**Relationship between region and district policy, after controlling for all other covariates**

<table>
<thead>
<tr>
<th>District Policy</th>
<th>W (ref)</th>
<th>MW</th>
<th>S</th>
<th>NE</th>
</tr>
</thead>
<tbody>
<tr>
<td>PE curriculum all grades</td>
<td>57.3%</td>
<td>44.2%</td>
<td>23.2%</td>
<td>35.5%</td>
</tr>
<tr>
<td>PE teaches PA lifestyle</td>
<td>66.7%</td>
<td>58.9% (ns)</td>
<td>33.2%</td>
<td>64.9% (ns)</td>
</tr>
<tr>
<td>PE competency assess.</td>
<td>48.2%</td>
<td>48.2% (ns)</td>
<td>18.5%</td>
<td>42.2% (ns)</td>
</tr>
<tr>
<td>50% PE time in MVPA</td>
<td>14.4%</td>
<td>12.2% (ns)</td>
<td>5.3%</td>
<td>6.6%</td>
</tr>
<tr>
<td>PE waiver prohibited</td>
<td>7.4%</td>
<td>8.1% (ns)</td>
<td>2.9%</td>
<td>7.2% (ns)</td>
</tr>
<tr>
<td>PA for every grade</td>
<td>40.3%</td>
<td>29.5%</td>
<td>53.5%</td>
<td>33.4% (ns)</td>
</tr>
<tr>
<td>PA time outside of PE</td>
<td>1.7%</td>
<td>2.2% (ns)</td>
<td>5.3%</td>
<td>2.0% (ns)</td>
</tr>
<tr>
<td>Meets NASPE time std.-ES</td>
<td>5.8%</td>
<td>5.1% (ns)</td>
<td>2.8%</td>
<td>1.2% (ns)</td>
</tr>
<tr>
<td>Meets NASPE time std-MS</td>
<td>38.3%</td>
<td>30.1% (ns)</td>
<td>11.9%</td>
<td>15.8%</td>
</tr>
<tr>
<td>Meets NASPE time std-HS</td>
<td>8.1%</td>
<td>2.0%</td>
<td>2.2%</td>
<td>0.7%</td>
</tr>
<tr>
<td>Daily recess req.–ES</td>
<td>28.9%</td>
<td>23.9 (ns)</td>
<td>11.3%</td>
<td>19.3%</td>
</tr>
</tbody>
</table>

*Adjusted prevalence of district policy occurring based on region, controlling for all other covariates. All models presented are statistically significant at the p<.05 level or lower in multivariate logistic regression models.
Relationship between district student enrollment race/ethnicity and district policy, after controlling for all other covariates*

<table>
<thead>
<tr>
<th>District Policy</th>
<th>&gt;66% White (ref)</th>
<th>&gt;50% Black</th>
<th>&gt;50% Hispanic</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>PE curriculum all grades</td>
<td>38.5%</td>
<td>45.5% (ns)</td>
<td>26.1%</td>
<td>39.6% (ns)</td>
</tr>
<tr>
<td>PE teaches PA lifestyle</td>
<td>55.4%</td>
<td>65.3% (ns)</td>
<td>41.2%</td>
<td>53.1% (ns)</td>
</tr>
<tr>
<td>PE competency assessment</td>
<td>38.5%</td>
<td>47.4% (ns)</td>
<td>22.7%</td>
<td>37.4% (ns)</td>
</tr>
<tr>
<td>PE teacher qualifications</td>
<td>27.4%</td>
<td>26.5% (ns)</td>
<td>16.6%</td>
<td>29.1% (ns)</td>
</tr>
<tr>
<td>PE waiver prohibited</td>
<td>5.7%</td>
<td>16.1%</td>
<td>6.5% (ns)</td>
<td>5.4% (ns)</td>
</tr>
<tr>
<td>PA for every grade</td>
<td>38.1%</td>
<td>25.1%</td>
<td>42.2% (ns)</td>
<td>36.6% (ns)</td>
</tr>
<tr>
<td>Meets NASPE time std-ES</td>
<td>3.4%</td>
<td>8.2%</td>
<td>1.8% (ns)</td>
<td>3.3% (ns)</td>
</tr>
<tr>
<td>Meets NASPE time std-MS</td>
<td>21.7%</td>
<td>38.6%</td>
<td>17.2% (ns)</td>
<td>21.3% (ns)</td>
</tr>
<tr>
<td>PE required for GPA-HS</td>
<td>15.6%</td>
<td>36.2%</td>
<td>7.7% (ns)</td>
<td>14.2% (ns)</td>
</tr>
</tbody>
</table>

*Adjusted prevalence of district policy occurring based district student enrollment race/ethnicity, controlling for all other covariates. All models presented are statistically significant at the p<.05 level or lower in multivariate logistic regression models. ns=not stat. sig. with adj.
Relationship between district locale and district policy, after controlling for all other covariates*

<table>
<thead>
<tr>
<th>District Policy</th>
<th>City (ref)</th>
<th>Suburb</th>
<th>Rural (ns)</th>
<th>Township (ns)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PE curriculum all grades</td>
<td>30.7%</td>
<td>50.8%</td>
<td>36.3%</td>
<td>34.6%</td>
</tr>
<tr>
<td>PE teaches PA lifestyle</td>
<td>51.9%</td>
<td>64.3%</td>
<td>52.2%</td>
<td>51.3%</td>
</tr>
<tr>
<td>PE competency assessment</td>
<td>32.1%</td>
<td>49.2%</td>
<td>35.5%</td>
<td>34.2%</td>
</tr>
<tr>
<td>PE teacher qualifications</td>
<td>22.8%</td>
<td>25.2% (ns)</td>
<td>29.3%</td>
<td>26.7% (ns)</td>
</tr>
<tr>
<td>PE waiver prohibited</td>
<td>3.8%</td>
<td>3.8% (ns)</td>
<td>8.1%</td>
<td>4.8% (ns)</td>
</tr>
<tr>
<td>Goals for PA</td>
<td>75.4%</td>
<td>83.7%</td>
<td>85.7%</td>
<td>87.5%</td>
</tr>
<tr>
<td>PA for every grade</td>
<td>38.2%</td>
<td>30.3%</td>
<td>43.5%</td>
<td>33.4%</td>
</tr>
<tr>
<td>Joint use of facilities</td>
<td>8.5%</td>
<td>12.5% (ns)</td>
<td>20.7%</td>
<td>27.2%</td>
</tr>
<tr>
<td>Daily recess req.- ES</td>
<td>22.4%</td>
<td>15.5%</td>
<td>24.1% (ns)</td>
<td>16.5% (ns)</td>
</tr>
<tr>
<td>PE required for GPA-HS</td>
<td>18.6%</td>
<td>12.7%</td>
<td>17.4% (ns)</td>
<td>12.4%</td>
</tr>
</tbody>
</table>

*Adjusted prevalence of district policy occurring based locale, controlling for all other covariates. All models presented are statistically significant at the p<.05 level or lower in multivariate logistic regression models. ns=not stat. sig. with adj.
Summary/Future Research
Summary

• Most district policies minimally meet the FW goal for PA.
• Most district policies minimally address goals for PE.
• District policies have strengthened over time, but still weak in many areas.
• Very few district policies address specific requirements beyond the FW language, especially across all grade levels.
Summary

• Factors Influencing District PE and PA Policy Provisions:
  • Districts in states with PE/PA laws are significantly MORE likely to include various PE/PA provisions in their district wellness policies.
  • Districts with low/mid SES are significantly MORE likely than high SES to include various PE/PA provisions in their district wellness policies.
  • Districts in the South are significantly LESS likely to include various district PE/PA policy provisions compared to the West.
  • Majority Hispanic districts are significantly LESS likely than majority White districts to address PE curriculum, PA lifestyle, PE competency, and PE teacher qualifications; while, majority Black communities are significantly MORE likely to address PE waiver prohibitions, PA for every grade, meeting NASPE time req. for ES/MS and requiring PE for HS graduation.
Future Research

• Future Research
  • Continued surveillance of wellness policies and state PE and PA laws.
  • Linking state and district policies with school level PE and PA practices and, ultimately, student PA and health-related outcomes.

• Implications
  • Absent increased resources (i.e., funding), district wellness policies addressing adequate PA and PE are not likely to significantly change; negatively impacting the health of students.
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Coauthors

Jamie F. Chriqui, PhD, MHS, Senior Research Scientist, University of Illinois at Chicago, 1747 W Roosevelt Rd, Chicago, IL 60608, 312-996-6410; 312-355-2801; jchriqui@uic.edu

Frank J. Chaloupka, PhD, Distinguished Professor, University of Illinois at Chicago, 1747 W Roosevelt Rd, Chicago, IL 60608, 312-413-2367; 312-355-2801; fjc@uic.edu
References


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