

San Luis Valley School Environment Project

Trends in School Nutrition and Physical Activity

2005/2006

2006/2007

2007/2008

2008/2009



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OVERVIEW

During the 2005-2006 school year, ten elementary schools in the San Luis Valley agreed to participate in the School Environment Project. With childhood obesity on the rise, the goal of this 5-year project was to create school-level environment and policy changes aimed at increasing students' opportunities for physical activity and healthy eating. This report describes how things have changed in the San Luis Valley since 2005. In this report, we refer to the School Environment Project as “**SEP**” and the San Luis Valley as the “**SLV**”.

In fall 2005, the ten schools were given the opportunity to undertake a strategic planning process to make school-level changes: half of the schools were randomly assigned to the Centers for Disease Control and Prevention's School Health Index and the other half to the “AIM Process.” The AIM Process is an adapted version of “Intervention Mapping” -- a process that follows a structured approach for determining interventions that have the most potential for positive change in a particular setting and population. In the AIM process for the SEP, schools worked directly with the University of Colorado's Rocky Mountain Prevention Research Center staff. Those using “AIM” met with the Prevention Research Center 8-10 times during the 2005-2006 year and then 2 additional times in fall 2006. Most schools implemented their environment and policy changes in fall 2006.

It is important to note that at the same time the strategic planning process was underway in the School Environment Project, a federal mandate was issued requiring all school districts to create a **Local Wellness Policy** by June 2006. This policy needed to address opportunities for healthy eating and nutrition education as well as physical activity. In this report, we refer to the Local Wellness Policy as the “**LWP**”.

To assess the effectiveness of the School Environment Project, we compared environment and policy trends in the SLV to a random sample of 45 schools in rural Colorado that had at least 40% of their students qualifying for free- or reduced-priced lunch. In the report, we refer to this sample as the “**Rural Random Sample**”. Each fall beginning in 2005 and going through fall 2008, the 10 SLV schools and 45 schools in the random sample completed the School Environment and Policy Survey. In addition, in fall 2005 and fall 2007, data collectors from the Rocky Mountain Prevention Research Center visited each of the SLV schools on four different occasions to collect information about the lunchroom (e.g., number of fruit and vegetable servings).

Highlights of this report

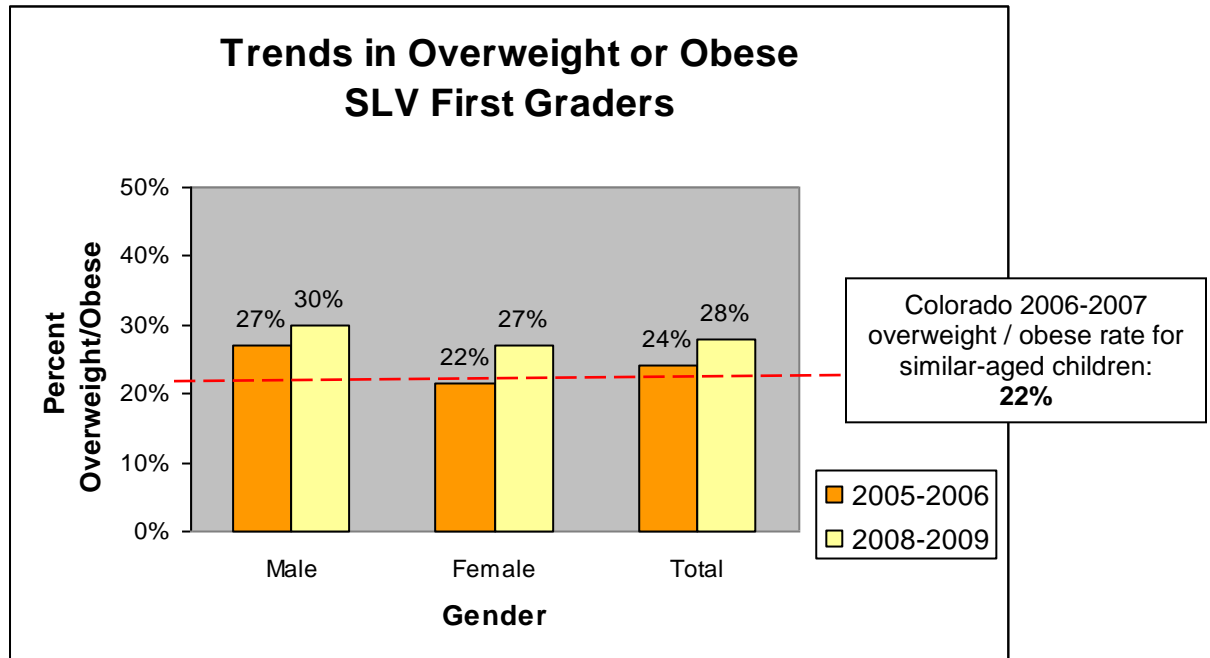
- **Overweight/Obesity Rates:** In 2008-2009 school year, 28% of 1st graders and 36% of 5th graders were overweight or obese. These rates are significantly higher than same-aged children across Colorado (22%, 26% respectively).
- **Recess before Lunch:** In 2008-2009 school year, 6 of out 10 SLV schools (60%) are scheduling recess before lunch. This is a best practice for increasing healthy food consumption and decreasing classroom discipline issues. Currently, only 24% of schools in the rural random sample have this best practice in place.
- **Classroom Parties:** Five out of 10 of SLV schools (50%) have policies stipulating that healthy foods and beverages be served at classroom parties. Currently, 43% of schools in the rural random sample have this best practice in place.
- **Physical Education:** PE in the SLV has increased by 23 minutes per week from the 2005-2006 school year to the 2008-2009 school year. Currently, the average amount of PE for SLV elementary school students is 117 minutes per week compared to 123 minutes in the rural random sample. Most schools are falling short of the national recommendation to provide 150 minutes of PE per week. Several studies show a positive link between physical activity and academic achievement (see page 10 for more information).
- **Recess:** Recess in the SLV has increased 8 minutes by per day from the 2005-2006 school year to the 2008-2009 school year. In contrast, the rural random sample decreased recess by 3 minutes per day over this time period. SLV schools meet national recommendations for daily recess and are providing an average of 47 minutes per day. The average amount of recess provided by the rural random sample is 34 minutes per day. See page 14 for information about the important connection

between physical activity and academic achievement.

If you have any questions or need information related to the data in this report, please call Elaine Belansky (303.724.4383). For additional resources related to making healthy changes to your school, please call Robert Chavez (719.589.5801).

Overweight or Obese

Figure 1: Overweight or Obese - First Grade



What This Means

- For the 2006-2007 calendar years, the rate of overweight or obese among 1st grade children in Colorado was 22%.
- In 2008-2009, 28% of SLV 1st graders were overweight or obese; this is a *17% increase* from 2005-2006 and is *27% higher* than the state of Colorado's rate for similar-aged children.
- In 2008-2009, 30% of male SLV 1st graders were overweight or obese; this is an *11% increase* from 2005-2006.
- In 2008-2009, 27% of female SLV 1st graders were overweight or obese; this is a *23% increase* from 2005-2006.

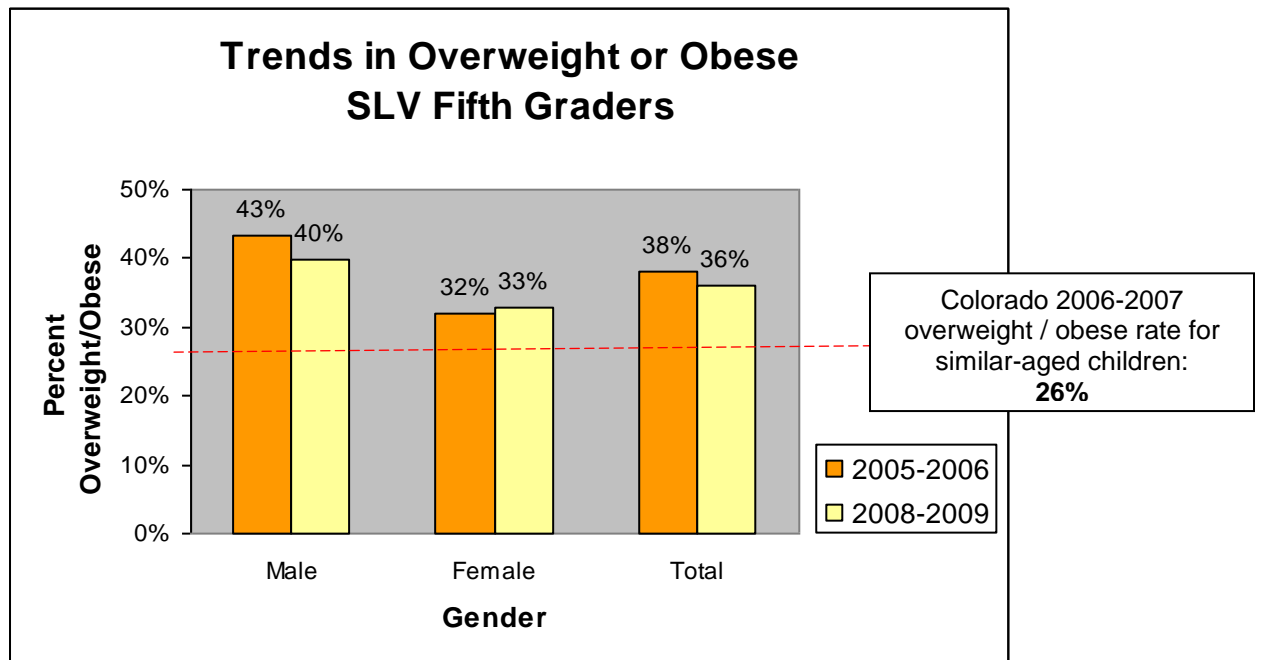
Note

The Colorado 2006-2007 overweight/obese rate of 22% reflects data collected over two calendar years (2006 and 2007) for 7 year-olds. The data used to determine this rate were obtained through the Child Health Survey conducted by the Colorado Department of Public Health and the Environment (CDPHE).

Data Source

School Environment Project, Rocky Mountain Prevention Research Center (RMPRC), University of Colorado Denver (UCD)

Figure 2: Overweight or Obese - Fifth Grade



What This Means

- For the 2006-2007 calendar years, the rate of overweight or obese children of 5th grade age in Colorado was 26%.
- In 2008-2009, 36% of SLV 5th graders were overweight or obese; this is a *5% decrease* from 2005-2006, and is *38% higher* than the state of Colorado's rate for similar-aged children.
- In 2008-2009, 40% of SLV male 5th graders were overweight or obese; this is *8% decrease* from 2005-2006.
- In 2008-2009, 33% of female SLV 5th graders were overweight or obese; this is *3% increase* from 2005-2006.

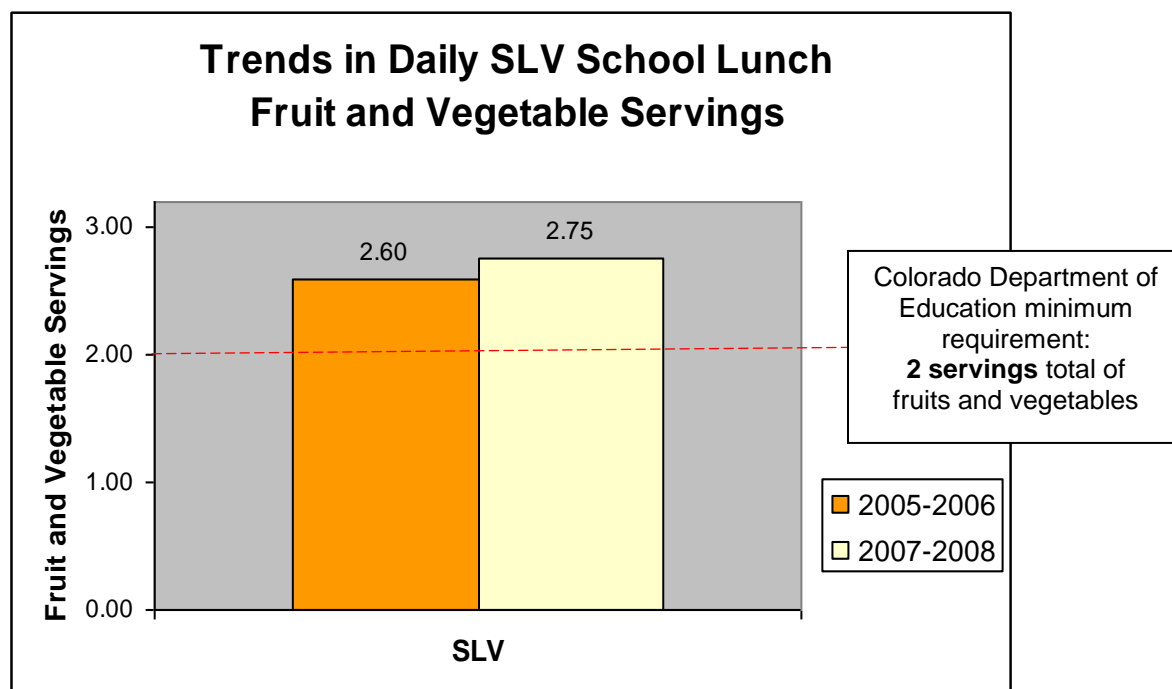
Note

The Colorado 2006-2007 overweight/obese rate of 22% reflects data collected over two calendar years (2006 and 2007) for 7 year-olds. The data used to determine this rate were obtained through the Child Health Survey conducted by CDPHE.

Data Source

School Environment Project, RMPRC, UCD

Figure 3: Total Fruit and Vegetable Offerings



What This Means

- The Colorado Department of Education requires schools to offer two servings of two or more different vegetables and/or fruits at lunch; this is the equivalent of one cup total of fruit and/or vegetables.
- The SLV elementary schools are, on average, offering *more fruit and vegetables* at lunch than required.
- In 2007-2008, the SLV schools offered an average of 2.75 servings of fruit and vegetables at lunch; this is approximately a *6% increase* from 2005-2006.

Best Practice

Increasing students' fruit and vegetable consumption is an important health goal for our community. To accomplish this, consider implementing the following evidence-based practices:

- 1) Provide more fruit and vegetable choices placed at the beginning of the lunch line;
- 2) Have foodservice staff encourage students to choose and eat fruits and vegetables;
- 3) Allow at least 20 minutes for students to eat lunch (not including time spent standing in lines);
- 4) Schedule recess to occur before lunch (which has been shown to increase lunch consumption, decrease visits to the nurse's office in the afternoon, and enhance classroom behavior); and
- 5) Use an "offer" system.¹

Notes

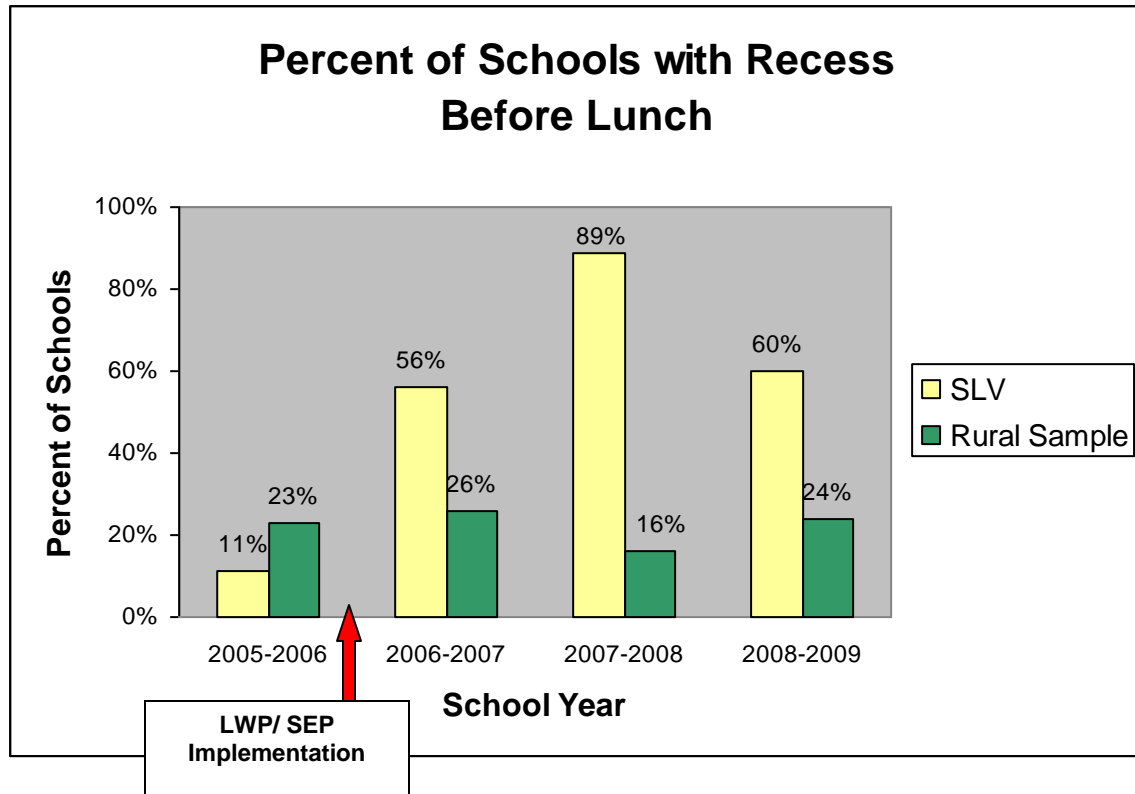
1. Amount of fruit and vegetables offered may be overestimated since single offerings of fruit and vegetables were sometimes less than half a cup, but still recorded as full servings. Also, beans were recorded as vegetables in all instances even though schools may have counted them towards the meat requirement for that day.
2. In 2005-2006, the SLV schools offered an average of .87 servings of fruit and 1.73 servings of vegetables at lunch. In 2007-2008, the amount of fruit offered increased to .99 servings and the amount of vegetables offered increased slightly to 1.76 servings. Graphs separating fruit and vegetable offerings can be provided upon request.

Data Source

Observations and measurements of four school lunches each year by RMPRC staff.

¹ An "offer" system is designed to meet federal nutrition standards while giving students greater flexibility in choosing what they eat for school lunch.

Figure 4: Recess before Lunch



What This Means

- Six out of 10 SLV elementary schools (60%) provided recess before lunch in 2008-2009. While the percentage increased dramatically from the 2005-06 to 2007-08 school years, it has *decreased* since 2007-2008.
- Compared to a random sample of rural elementary schools, *significantly more* SLV elementary schools are providing recess before lunch.

Best Practice

Scheduling recess before lunch is a best practice. Studies show that when recess is scheduled before lunch, children:

- 1) Eat a healthier lunch;
- 2) Have fewer visits to the school nurse; and
- 3) Have better classroom behavior.

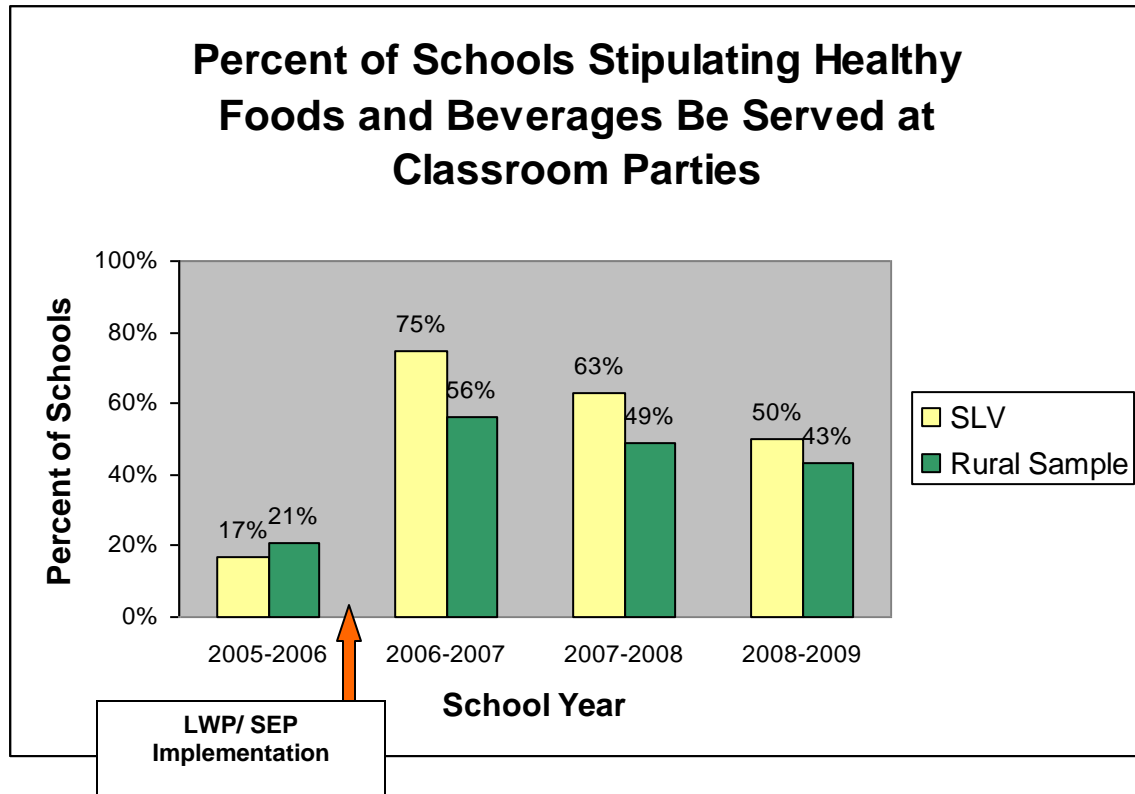
For more information about recess before lunch, please visit:

<http://www.cde.state.co.us/cdenutritran/download/pdf/RecessBeforeLunchCO.pdf>

Data Source

School Environment Project, RMPRC, UCD

Figure 5: Classroom Parties



What This Means

- In 2008-2009, 5 out of 10 SLV elementary schools (50%) stipulated that healthy foods and beverages be served at classroom parties; this is a substantial increase from 2005-2006 when only 17% of SLV elementary schools had this policy in place. Similar trends were also seen in the random sample of rural elementary schools.

Best Practice

Providing only healthy food options at classroom parties is a best practice. Such healthy food options include:

- 1) Fruit smoothies;
- 2) Fruit kabobs made with a variety of fruits;
- 3) Whole grain tortilla chips and salsa; and
- 4) Whole grain crackers (e.g. Triscuits) with reduced-fat cheese.

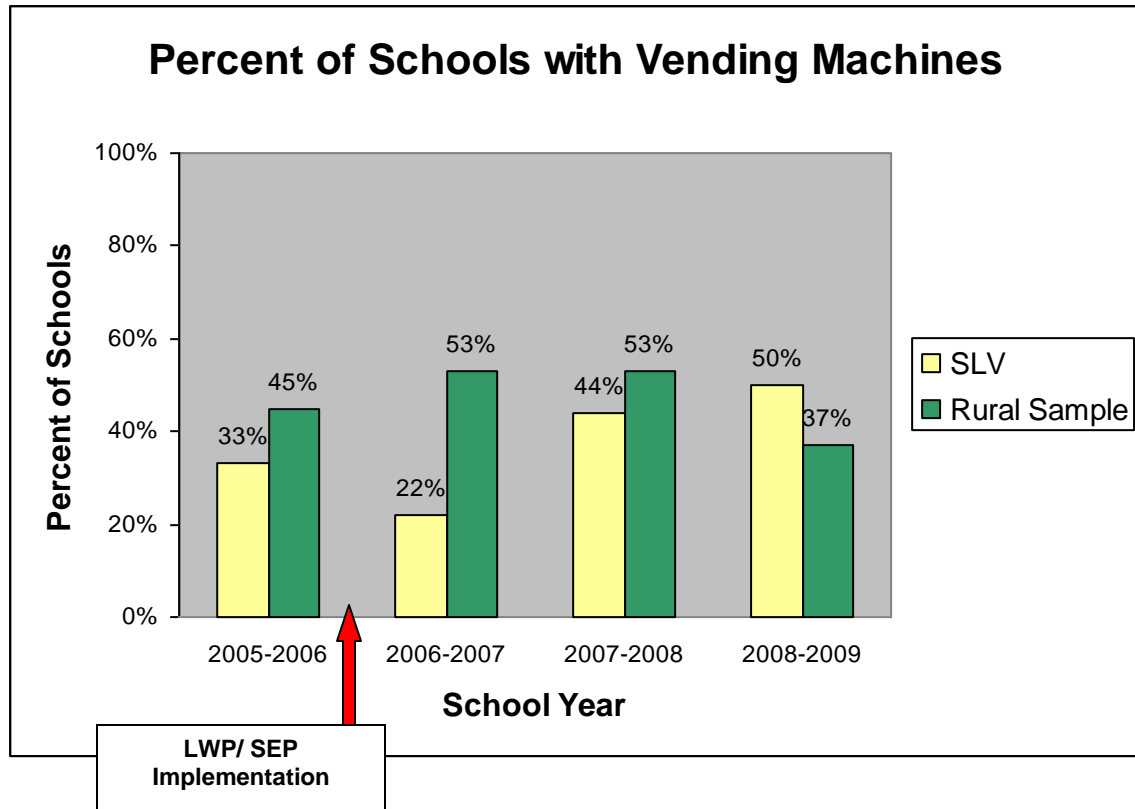
For more ideas regarding healthy party snacks, visit:

http://www.cspinet.org/nutritionpolicy/policy_options_healthycelebrations.html

Data Source

School Environment Project, RMPRC, UCD

Figure 6: Vending Machines



What This Means

- In 2008-2009, 5 out of 10 SLV elementary schools (50%) had vending machines; the number of SLV elementary schools that have vending machines has *more than doubled* since 2005-2006.
- In 2008-2009, the percentage of SLV elementary schools that have vending machines *surpassed* that of the rural random sample.

Best Practice

It is a best practice to not have vending machines. However, if your school has vending machines accessible to students, it is a best practice to stock the machines with only healthy items such as:

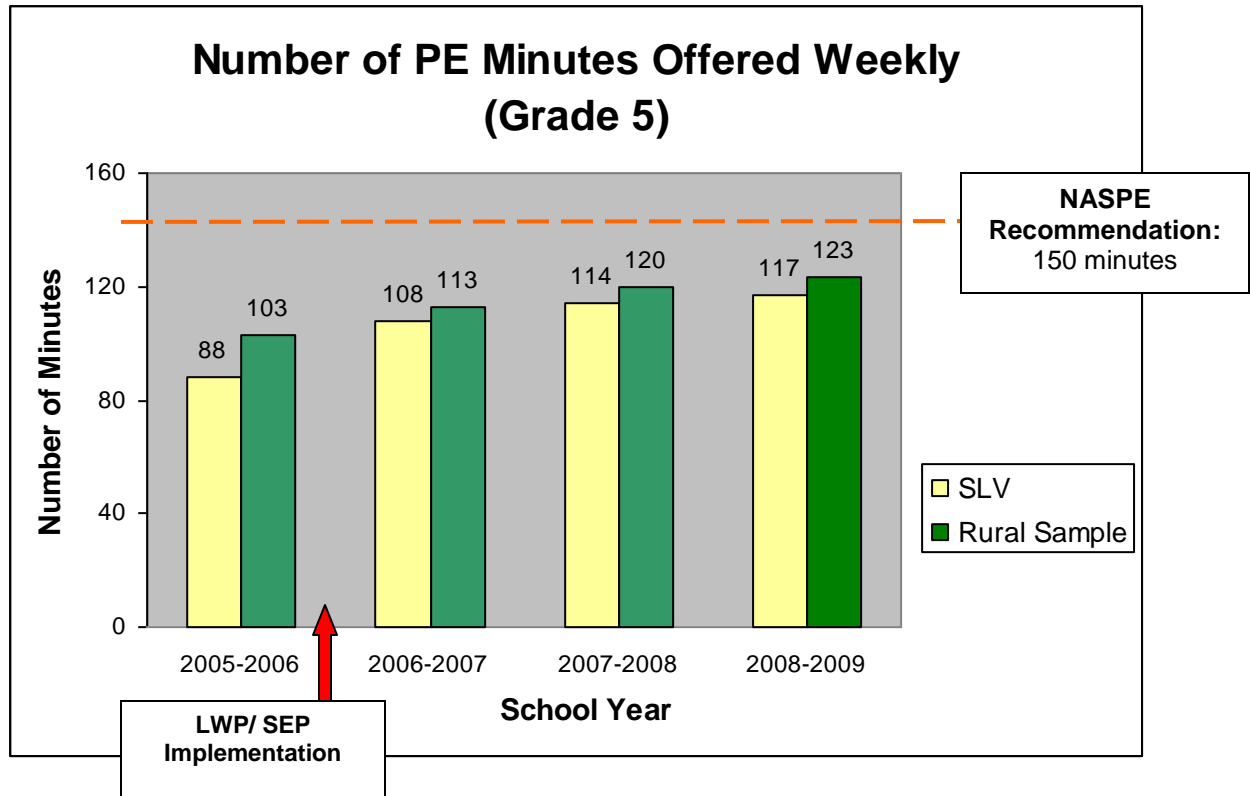
- 1) One hundred percent fruit juices that are not more than 8 ounces and 120 calories;
- 2) Bottled water;
- 3) Nuts, seeds, fresh and/or dried fruits or vegetables; and
- 4) Low fat or baked chips.

For more ideas regarding healthy vending options, visit:
http://www.fns.usda.gov/tn/healthy/wellnesspolicygoals_guidelines.html

Data Source

School Environment Project, RMPRC, UCD

Figure 7: PE Minutes



What This Means

- In 2008-2009, the SLV elementary schools were providing an average of 117 minutes of PE. This amount has *increased* by 29 minutes since 2005-2006, but is approximately 6 minutes less than what was being provided by the random sample of rural elementary schools, and is 33 minutes less than what is recommended.

Best Practice

The National Association for Sport and Physical Education (NASPE) recommends at least 150 minutes per week of instructional physical education for elementary school students and 225 minutes per week for secondary students. This can be accomplished by increasing the length of a PE period or increasing the number of days students take PE in a week.

Studies have shown that...

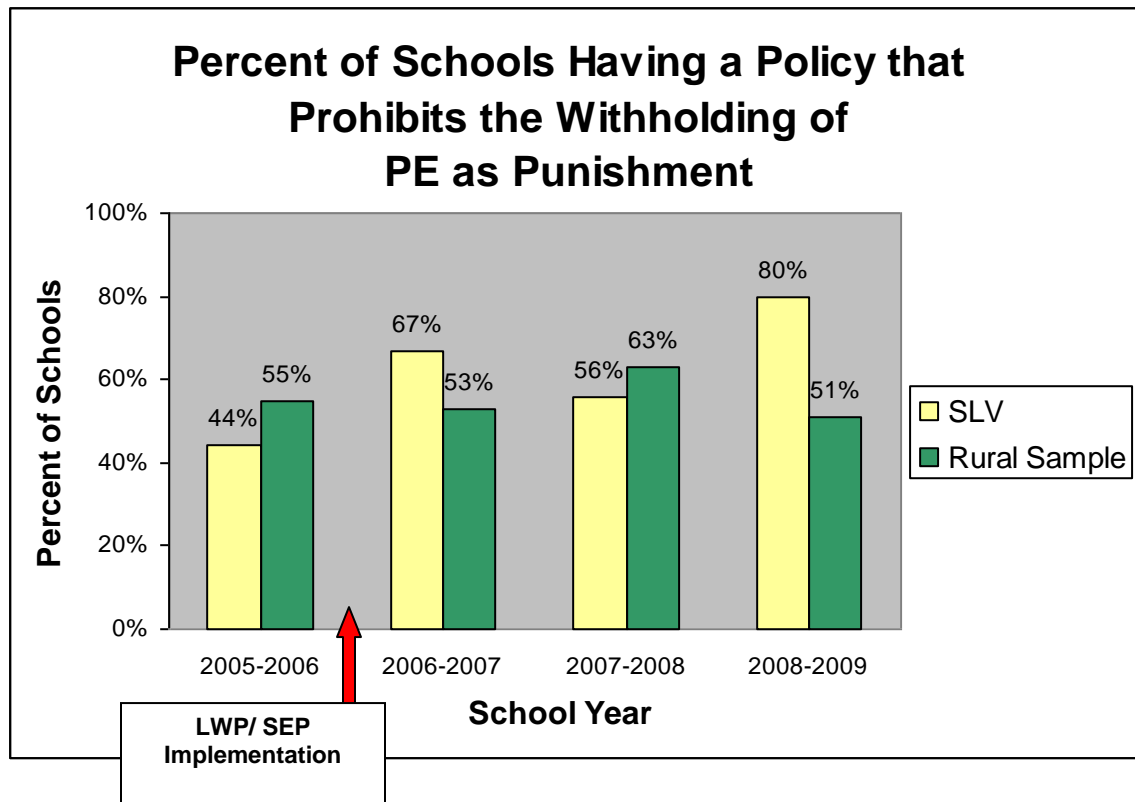
- 1) kids who are more physically active tend to perform better academically with respect to grades and standardized test scores;
- 2) kids who are physically fit are likely to have stronger academic performance, better school attendance, and fewer disciplinary problems;
- 3) activity breaks can improve cognitive performance and classroom behavior;
- 4) more time in physical education and other school-based physical activity does not adversely affect academic performance

For more information about the positive link between physical activity and academic achievement, please see: <http://www.activelivingresearch.org/resourcesearch/summaries>.

Data Source

School Environment Project, RMPRC, UCD

Figure 8: Withholding PE as Punishment



What This Means

- In 2008-2009, 8 out of 10 SLV elementary schools (80%) had a policy in place prohibiting teachers from withholding Physical Education (PE) class as punishment; this is an *increase* from 2005-2006 when 44% of schools had such a policy in place.
- Compared to the rural random sample, the percentage of SLV elementary schools with this policy in place was *significantly higher* in 2008-2009.

Best Practice

Having a policy that prohibits the withholding of PE class as a form of punishment is a best practice. Providing time for physical activity allows students to release energy and stress. This leads to better performance in the classroom. Studies have shown that a lack of physical activity leads to behaviors that require punishment. Physical activity has been shown to:

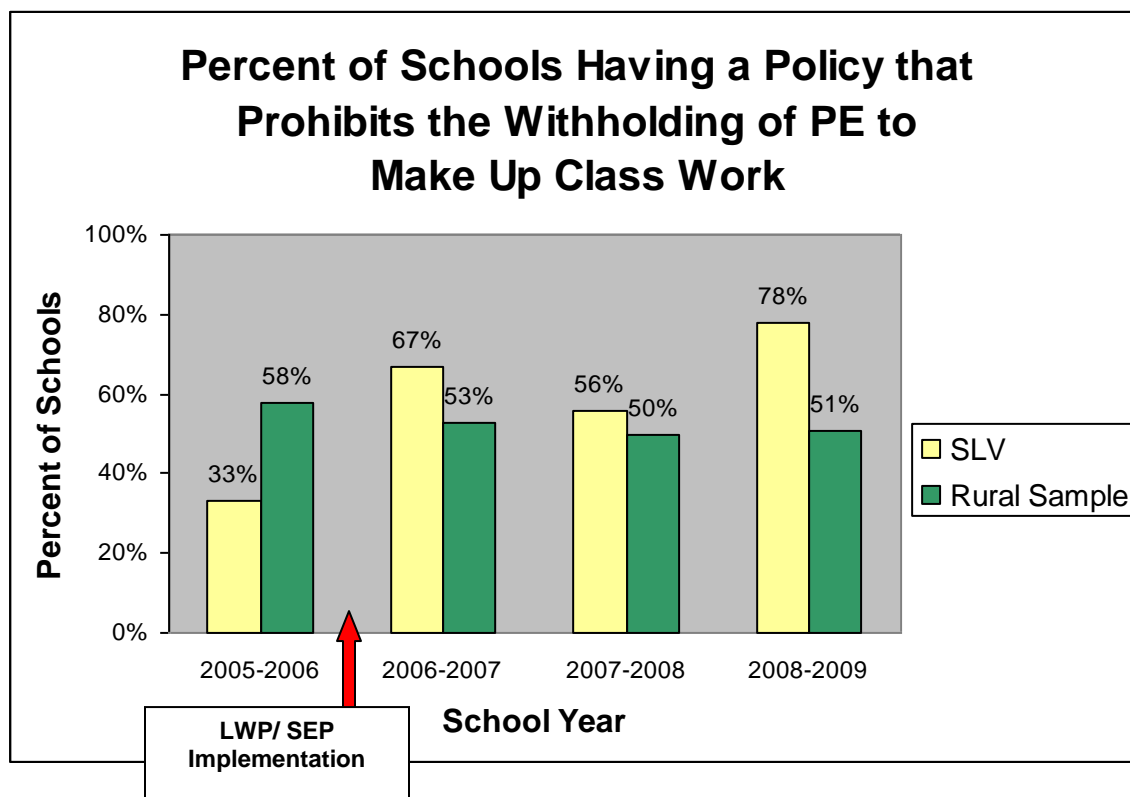
- 1) Decrease disciplinary incidents;
- 2) Increase classroom focus; and
- 3) Improve academic scores.

For more information about the positive link between physical activity and academic achievement, please see: <http://www.activelivingresearch.org/resourcesearch/summaries>.

Data Source

School Environment Project, RMPRC, UCD

Figure 9: Withholding PE to Make Up Class Work or Tests



What This Means

- In 2008-2009, 7 out of 9 SLV elementary schools (78%) had a policy in place prohibiting teachers from withholding PE class to make up class work or tests; this is an *increase* from 2005-2006 when 33% of schools had such a policy in place.
- Compared to the rural random sample in 2008-2009, the percentage of SLV elementary schools with such a policy in place was *significantly higher*.

Best Practice

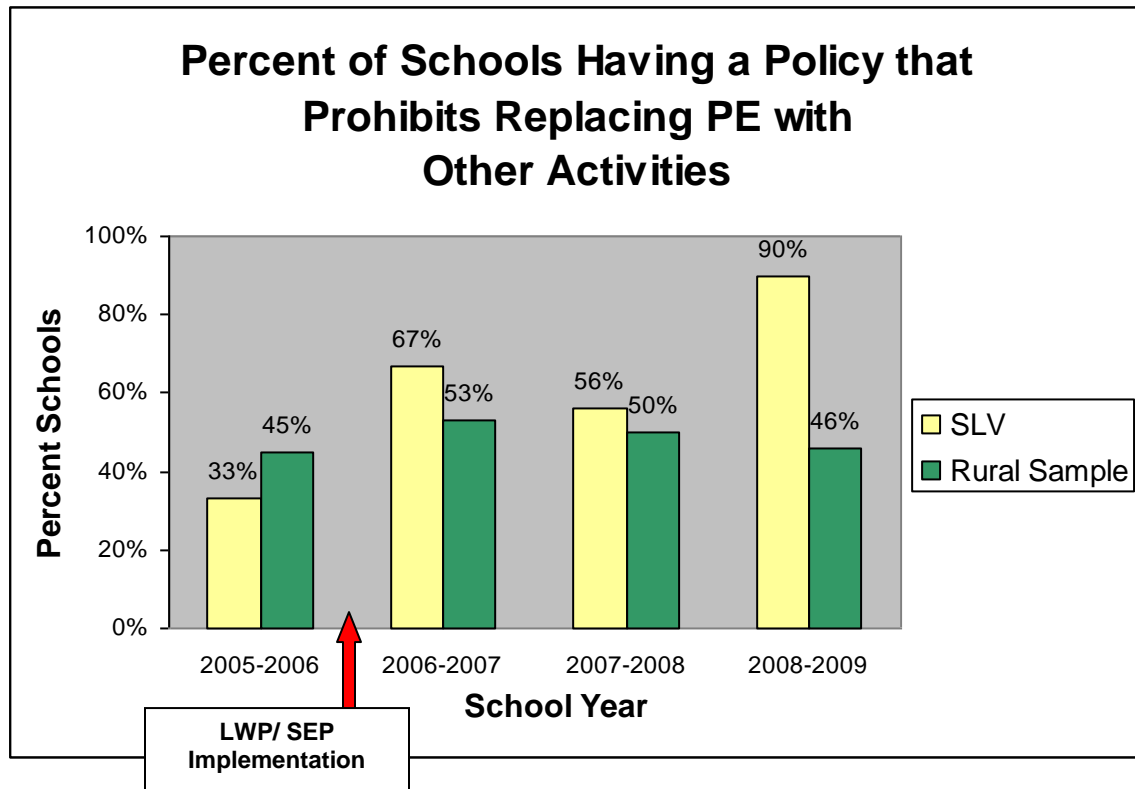
Having a policy that prohibits the withholding of PE to make up missed instructional time is a best practice. Providing time for physical activity allows students to release energy and stress. This has been shown to improve performance in the classroom. Physical activity can lead to:

- 1) Better concentration;
- 2) Reduced disruptive behaviors; and
- 3) Higher test scores.

Data Source

School Environment Project, RMPRC, UCD

Figure 10: Replacing PE with Other Activities



What This Means

- In 2008-2009, 9 out of 10 SLV elementary schools (90%) had a policy in place prohibiting teachers from replacing PE class with other activities; this is an *increase* from 2005-2006 when 33% of schools had such a policy in place.
- The percentage of SLV elementary schools with this policy in place was *significantly higher* than the rural random sample in 2008-2009.

Best Practice

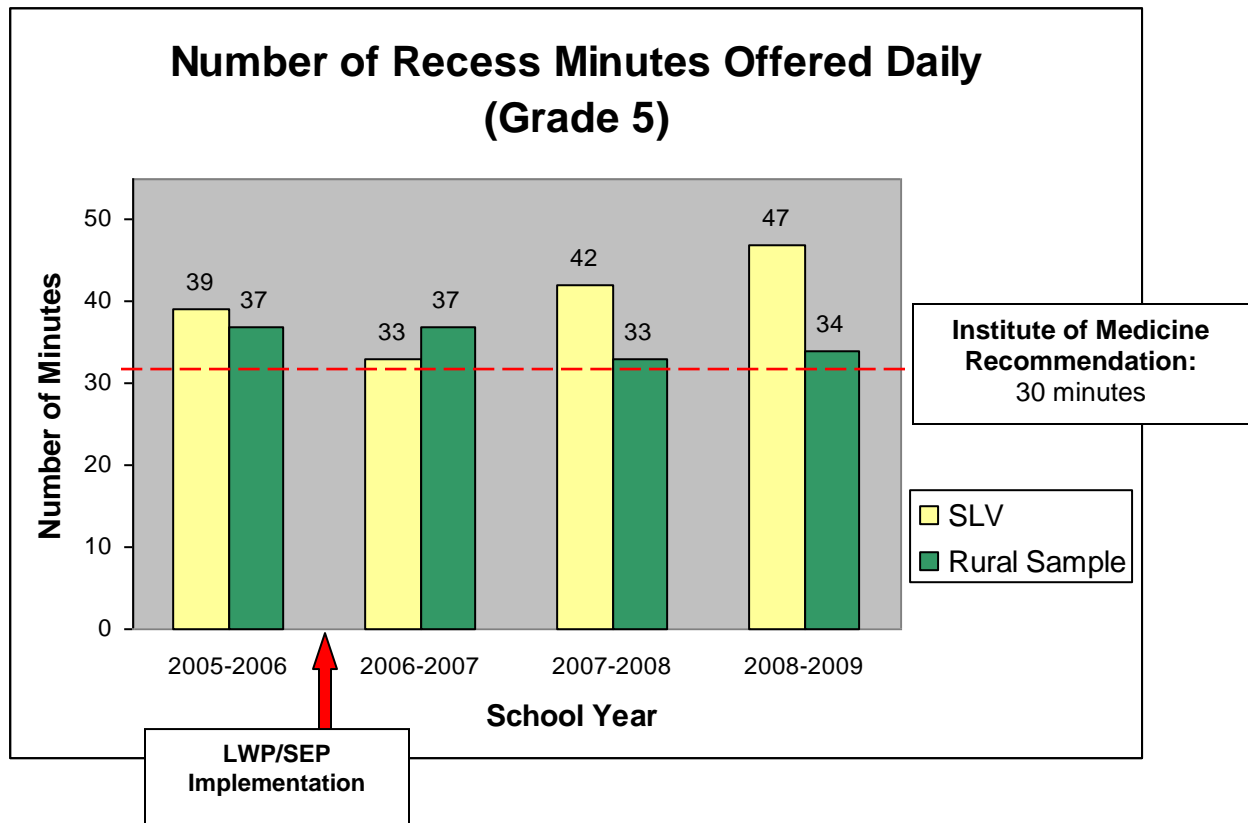
Having a policy that prohibits replacing PE with other activities is a best practice. Providing time for physical activity allows students to release energy and stress. This has been shown to improve performance in the classroom. Physical activity can lead to:

- 1) Better concentration;
- 2) Reduced disruptive behaviors; and
- 3) Higher test scores.

Data Source

School Environment Project, RMPRC, UCD

Figure 11: Recess Minutes



What This Means

- It is recommended that students have at least 30 minutes of recess per day.
- In 2008-2009, the SLV elementary schools were providing an average of 47 minutes of daily recess. This amount has *increased* by 8 minutes since 2005-2006, and is 13 minutes *more* than what was being provided by the random sample of rural elementary schools in 2008-2009.

Best Practice

The National Academies' Institute of Medicine's *Preventing Childhood Obesity: Health in the Balance* report recommends that students participate in at least thirty minutes of moderate to vigorous physical activity during each school day.² This can be accomplished by increasing the amount of time allotted for recess or increasing the number of physical activity breaks for students per day. Providing time for physical activity allows students to release energy and stress. Physical activity helps school-aged children:

- 1) Develop social skills;
- 2) Maintain concentration in the classroom; and
- 3) Reduce risk-taking behaviors.

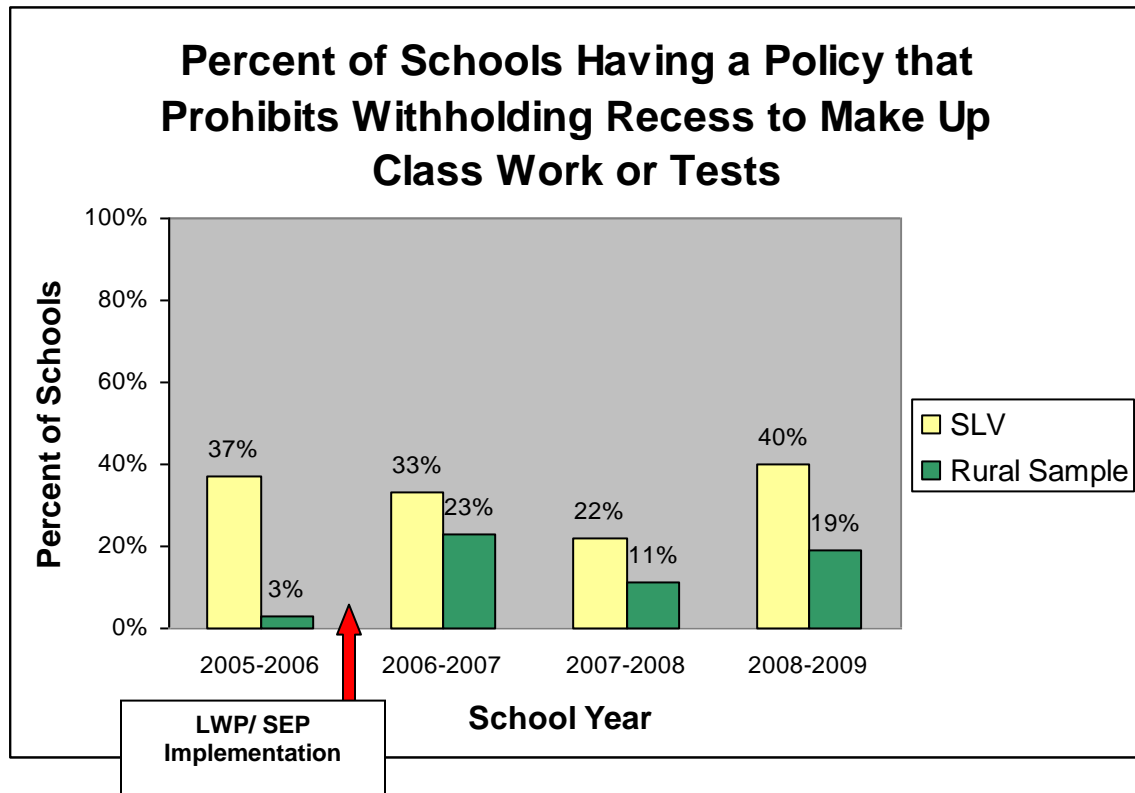
For more information about the positive link between physical activity and academic achievement, please see: <http://www.activelivingresearch.org/resourcesearch/summaries>.

Data Source

School Environment Project, RMPRC, UCD

² Jeffrey P. Koplan, Catharyn T. Liverman, and Vivica I. Kraak, eds., *Preventing Childhood Obesity: Health in the Balance* (Washington: National Academies Press, 2005).

Figure 12: Withholding Recess to Make Up Missed Instructional Time



What This Means

- In 2008-2009, 4 out of 10 SLV elementary schools (40%) had a policy in place that prohibited the withholding of recess to make up missed instructional time; this has not changed significantly since 2005-2006.
- Compared to the random rural sample, a *higher* percentage of SLV elementary schools had a policy in place that prohibited the withholding recess to make up missed instructional time in 2008-2009.

Best Practice

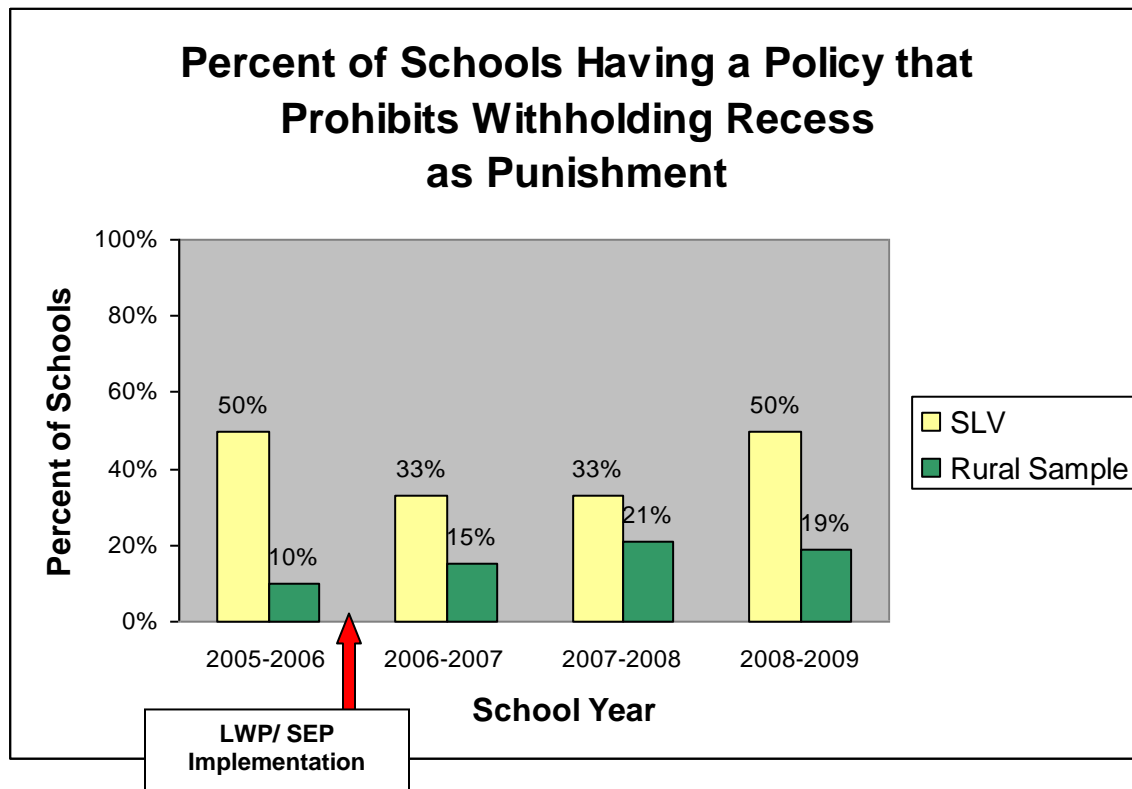
Having a policy that prohibits the withholding recess to make up missed instructional time is a best practice. Providing time for physical activity allows students to release energy and stress. This has been shown to improve performance in the classroom. Physical activity can lead to:

- 1) Better concentration;
- 2) Reduced disruptive behaviors; and
- 3) Higher test scores.

Data Source

School Environment Project, RMPRC, UCD

Figure 13: Withholding Recess as Punishment



What This Means

- In 2008-2009, 5 out of 10 SLV elementary schools (50%) had a policy in place that prohibited teachers from withholding recess as a form of punishment; this has not changed since 2005-2006.
- A *higher* percentage of SLV elementary schools, when compared to the random rural sample, had a policy in place that prohibited classroom teachers from withholding recess as a form of punishment in 2008-2009.

Best Practice

Having a policy that prohibits withholding recess as a form of punishment is a best practice. Providing time for physical activity allows students to release energy and stress. This leads to better performance in the classroom. Studies have shown that a lack of physical activity leads to behaviors that require punishment. Physical activity has been shown to:

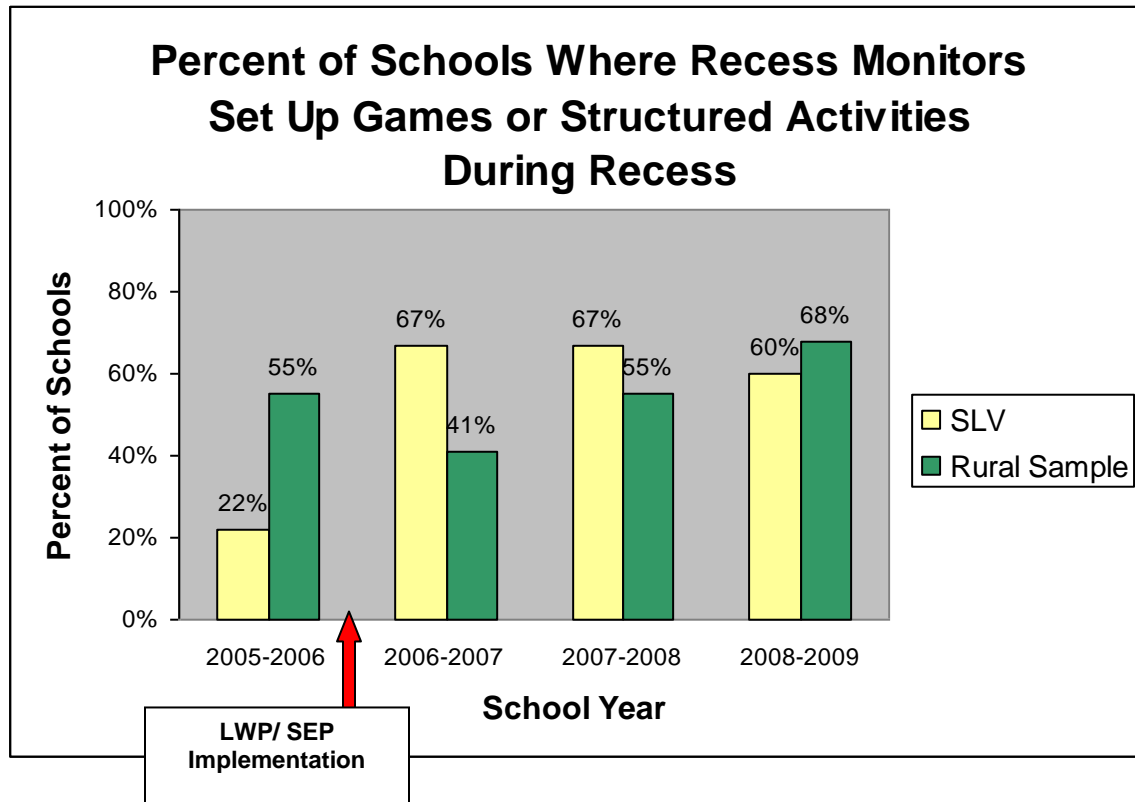
- 1) Decrease disciplinary incidents;
- 2) Increase classroom focus; and
- 3) Improve academic scores.

For alternatives to removing recess as punishment, see “Discipline Alternatives” at: www.peacefulplaygrounds.com/recess-alt.htm

Data Source

School Environment Project, RMPRC, UCD

Figure 14: Structured Recess



What This Means

- During the 2008-2009 school year, 6 out of 10 SLV elementary schools (60%) had teachers or recess monitors set up games or activities for students on occasion during recess. This increased from 22% of schools in 2005-2006.
- In 2008-2009, the number of schools from the random sample that have teachers or recess monitors set up games or activities during recess was slightly higher than the SLV elementary schools.

Best Practice

Providing organized activities, making balls available to children, and having recess staff encourage students to be active during recess increases children's physical activity. In addition, physical improvements made to play spaces such as basketball hoops and courts, baseball backstops, and volleyball nets are related to increasing students' activity levels during recess.

Data Source

School Environment Project, RMPRC, UCD

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