

Alaska School Districts

# Physical Education & Recess Policy Survey

March 2014

An Assessment of Alaska's 54 School Districts  
Physical Education and Recess Policies

*Prepared for:*

Department of Health and Social Services

Division of Public Health

Section of Chronic Disease Prevention & Health Promotion (CDPHP)

School Health Program

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# Part II: Alaska School District Written PE and Recess Policy Collection & Analysis

## OVERVIEW OF STUDY METHODS

Part II examined written policies from 94% (51 out of 54) of Alaska’s school districts. These policies were found on the individual school district’s websites, were provided to the researchers by district personnel, or were found on the State of Alaska Department of Education and Early Development website (<http://www.eed.state.ak.us/tls/cnp/wellness.html>). All written policies were collected between December 2013 and March 2014 and copies were provided to the DHHS.

For the purpose of this study, PE and Recess Policies were defined to include:

- 1) the actual district Board Policy (BP 5040 Student Nutrition and Physical Activity Section) approved by the district school board, and
- 2) the associated Administrative Regulations (AR 5040), including implementation regulations, rules, procedures, or administrative guidelines, as well as memoranda from the district department chair.

All policies were analyzed using an adaption of the Wellness Policy coding scheme from in the Robert Wood Johnson Foundation report “Bridging the Gap: Research informing policies and practices for healthy youth” (2010).

For each policy, data are presented on the percentage of school districts in Alaska: 1) a strong policy; 2) a weak policy; or 3) no policy. STRONG POLICY PROVISIONS were defined as those that were definitely required and suggested an implementation plan or strategy. Strong policy provisions included language such as shall, must, will, and require; or meets or exceeds the CDC recommendations. WEAK POLICY PROVISIONS were defined as those that included vague terms, suggestions or recommendations, as well as those that required action, but noted exceptions for certain grade levels or certain times of day; or did not meet the CDC recommendations. Weak policy provisions included language such as should, might, encourage, some, make an effort to, partial or try.

*NOTE: Mt. Edgecumbe High School was included in the survey sample, however none of the elementary or middle school questions are relevant to the policies at this school because it is a state sponsored boarding school for secondary students only. Questions about elementary and middle school policies and practices, therefore, only have 50 respondents.*

## WRITTEN POLICY ANALYSIS

Physical Education and recess policies adopted and/or revised (required Wellness Policy element)		
No policy/last policy adoption or update 2005-2007	33%	17/51
Policy adopted/updated 2008-2010	14%	7/51
Policy adopted/updated 2011-2014	53%	27/51

Physical Education required at Elementary level		
No written policy/provision	40%	20/50
Weak policy (e.g., “aim to provide”, “to the extent possible”)	48%	24/50
Strong policy (e.g., “will provide”)	12%	6/50

## WRITTEN POLICY ANALYSIS (CONTINUED)

Amount of time specified for physical education at the Elementary level (CDC recommendation: at least 150 min/week)		
No written policy/provision or blank template	56%	28/50
Weak policy (less than 150 min/week)	34%	17/50
Strong policy (150 min/week +)	10%	5/50
Physical Education required at Middle School level		
No written policy/provision	42%	21/50
Weak policy (“aim to provide”, “to the extent possible”)	46%	23/50
Strong policy (“will provide”)	12%	6/50
Amount of time specified for physical education at the Middle School level (CDC recommendation: at least 225 min/week)		
No written policy/provision or blank template	58%	29/50
Weak policy (less than 225 min/week)	32%	16/50
Strong policy (225 min/week +)	10%	5/50
Physical Education required at High School level		
No written policy/provision	45%	23/51
Weak policy (“aim to provide”, “to the extent possible”)	45%	23/51
Strong policy (“will provide”)	10%	5/51
Amount of time specified for physical education at the High School level (CDC recommendation: at least 225 min/week)		
No written policy/provision or blank template	59%	30/51
Weak policy (less than 225 min/week or undefined e.g., “4 times per week”)	35%	18/51
Strong policy (225 min/week +)	6%	3/51
Prohibited use of (e.g., running laps) or withholding physical activity (e.g., recess) as punishment		
No written policy/provision	46%	23/50
Weak policy (e.g., “loss of recess minimized”)	10%	5/50
Strong policy	44%	22/50

## WRITTEN POLICY ANALYSIS (CONTINUED)

Daily recess requirements at Elementary level		
No written policy/provision	50%	25/50
Definitely addressed	50%	25/50
Amount of time specified for recess at the Elementary level (CDC recommendation: at least 20 min/day)		
No written policy/provision or blank template	66%	33/50
Weak policy (less than 20 min/day or undetermined “daily”)	8%	4/50
Strong policy (20 min/day +)	26%	13/50
Daily recess requirements at Middle School level		
No written policy/provision	100%	50/50
Definitely addressed	0%	0/50



# Policy Analysis and Discussion

## PHYSICAL EDUCATION (PE)

### FINDINGS

- Even though many districts have written policies, very few districts had the actual minutes written in their policy.
- Sixty percent of districts have a written policy requiring PE for **elementary** students. However, 91% of districts have written and/or unwritten policies and do provide PE at the **elementary** level.
- Only 10% of districts have a written policy requiring at least the recommended 150 minutes of PE at **elementary** and 56% do not have any minimum number in their written policy. In practice, 17% do provide 150 or more.
- Fifty-eight percent of districts have a written policy for PE at the **middle** school level. Eighty-three percent have written/unwritten policies and actually provide PE at **middle** school.
- Only 10% of the districts meet the recommended 225 minutes for **middle** school PE in their written policy. Fifty-eight percent have no minimum requirements in their written policy. 32% of the districts actually meet the recommended 225 minutes for **middle** school PE in practice.
- Eighty-five percent of survey respondents reported PE was required at the **high** school level and was in the district's written policy. This is related to a state graduation requirement of 1 credit of PE or Health or 1/2 credit each.
- Only 6% of the districts have a written policy requiring at least the recommended 225 minutes for **high** school PE. Fifty-nine percent have no minimum requirements in their written policy. 37% of districts meet the recommended 225 minutes for **high** school PE in practice.
- Eighty-one percent of survey respondents said written policies are being implemented at most/all of the schools in their district.
- Not all key district personnel know what is in their written policies.

### DISCUSSION

Written PE policies are statements that show stakeholder support and provide an element of accountability. It may be an aversion to accountability that causes districts to shy away from written policies that commit resources to

PE in times of tight budgets, scheduling challenges, and staffing issues. As one survey respondent commented, "Since many policies are unwritten there is danger the programs could be cut."

It may also be the case that the local school board does not value or understand the importance of PE as the cornerstone of a comprehensive school physical activity program, as another survey respondent reported, "At district level, board has articulated (PE and Recess are) not necessary, but not everyone agrees (they are)."

Written policies, such as the state graduation requirement, can lead to more PE opportunities for students. Policies allocate resources and send a message that PE is a critical aspect of a child's physical, mental, and emotional development.

Low percentages of districts meeting the recommended number of minutes of PE in their written policies at all levels (Elementary 17%, Middle School 32%, High School 37%), are concerning. However, as the survey revealed, just because a policy is not written, it doesn't mean it isn't happening.

There is an internal struggle within districts to balance time for physical education and core curriculum and academics at all levels. A survey respondent aptly stated, "School is focusing on attendance and grades; PE has taken a backseat."

## QUALIFIED PE TEACHERS

### FINDINGS

- Eight-five percent of districts follow state/national curriculums that provides a road map to PE teachers, regardless of their qualifications (9% of the survey respondents didn't know). However this does not provide specific strategies for meeting the standards. Certified and/or endorsed teachers are thought to have this knowledge.
- Eighty-three percent of districts require that elementary students be taught PE by certified elementary teachers.
- Sixty-seven percent of districts require middle and high school PE teachers to be endorsed by state in PE.

- Thirty-three percent of districts reported their PE teachers do receive regular professional development in PE. A survey respondent stated, “With staff turnover it can be a challenge to keep Elementary teachers trained.”

## DISCUSSION

With a strong physical education program in place, students will become physically active and acquire skills to live a healthy life. It is commonly understood that a quality program requires a quality teacher. Professional development enables educators to update and hone their skills and in turn, students benefit. Alaskan school districts are varied and unique, each with unique staffing challenges. Larger districts may have district PE coordinators, PE departments and on-site professional development, while smaller, rural districts may have only one head teacher who does everything.

There are some strong curricular and teacher requirements in place in some districts, as the survey revealed. Several survey respondents conveyed the need for professional development, such as “providing more on-site training rather than expensive travel/time away.” Suggestions for itinerant PE teachers, allocated funding for PE/Health endorsed staff, and “in-service training for staff, supplemental curriculum” warrant further investigation.

It is critical to keep in mind that districts must balance what is optimal and what is feasible. As one rural educator expressed, “PE would not be offered if a certified or PE endorsed teacher had to teach.”

## PHYSICAL ACTIVITY AS PUNISHMENT AND/OR BEHAVIOR MANAGEMENT

### FINDINGS

- Forty-six percent of districts do not have any policies prohibiting excluding students from PE for bad behavior or incomplete classwork or using physical activity as punishment.
- Fifty-four percent of districts have some mention in their policy, but only 44% of those have strong language (10% suggest time lost should be “minimized,” “other options explored,” or used on a “limited basis.”). Only 32% of survey respondents reported their districts have such a policy.

## DISCUSSION

Although it has been practiced in some schools in the past, current NASPE recommendations suggest it is inappropriate to use physical activity as punishment or behavior management. Students should have positive experiences with physical activity and PE, and should not be excluded from PE or recess because of bad behavior or incomplete work. Physical activity can have positive effects on student academic behavior and concentration.

Several professional organizations support NASPE position, and school districts should implement similar policies. Further, school board policies should be made known to school personnel who interact with students on a daily basis, so policy can be reflected in practice.

## WAIVERS AND EXEMPTIONS

### FINDINGS

- Fifty percent of Alaskan school districts allow waivers, exemptions, or substitutions.
- Extra-curricular activities fulfill PE requirements for 93% of the districts that allow waivers, exemptions, or substitutions.

## DISCUSSION

Physical education differs from physical activity because of the added elements of a curriculum, or systematic progression of skills and knowledge. NASPE recommends that schools and districts to not permit waivers and/or exemptions to replace required PE time. School district size and location may be a factor in this consideration. Some districts reported waivers, exemptions, or substitutions have never been requested or needed.

Waivers and exemptions do not address standards for what a physically educated student should know and be able to do. If districts choose to allow waivers or exemptions, the physical activity requirement may have been met, but districts should ensure the knowledge requirements are met as well. One survey respondent suggested, (I) “would like to see 1 credit of PE and 1 of health without waivers. Physical Education and activities should be required, as well as Health and Safety if they

are separated. No waivers would indicate (the) belief that children are well, not just playing sports.”

## FACILITIES

### FINDINGS

- Seventy-two percent of districts have dedicated PE facilities at most/all of the schools.
- Only 7% have no facility other than an multi-purpose/cafeteria for PE classes.

### DISCUSSION

Schools can provide space, time, equipment, and facilities that make physical education and activity appealing. Scheduling PE classes in some Alaskan schools can be challenging because of space limitations.

There are specific needs in districts (e.g., no heat in the gym, overcrowding, schools working their way up the list for capital improvements) that interfere with providing a quality PE program. However, the majority of districts do have dedicated facilities in most or all of their schools. One survey respondent requested, “Money for facilities and improvements, only districts that are on the [Capital Improvement Project] list get funding and have money to revitalize play area, but not many projects are being funded. Upkeep on facilities is expensive. Invest in our schools and not just base student allocation, but also capital projects.”

## RECESS

### FINDINGS

- About 50% of districts have recess policies, although many survey respondents were not aware of district policies.
- Recess is provided in practice more than the written policies suggest. At the elementary level, only 26% of the written policies require more than 20 minutes per day of recess. In practice, 94% provide 20 minutes or more.
- No districts have a written policy for recess at the Middle school level. 63% of districts actually provides “recess” or open gym at the middle school level, although the amount of time varies widely.
- 77% of elementary schools schedule lunch and recess separately.

## DISCUSSION

Educators agree on the importance of physical activity to complement academics. With increased focus on academic achievement and test scores, districts may be hesitant to put specific minutes in written policy because of the public perception of “play time.”

Alaska has special considerations (weather, space, equipment maintenance and shipping costs) for outdoor recess. “Although we do try to get kids outside,” one respondent said, “the weather presents challenges. District policy requires students to go outside if the temperature is above -20F.”

School districts and the State can build on the momentum of successful public awareness campaigns such as “Play Every Day” to build public understanding on the importance and benefits of 60 minutes of daily physical activity. School Board policy and distribution of district recess policy can empower school personnel in making scheduling decisions that includes opportunities for physical activity during the school day. Additionally, there is a need for further exploration as to how school districts can adopt policies that reflect their actual practice.

# Conclusion

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The purpose of this project was to gather basic information about Alaska's school district policies on PE and recess. The survey gathered insightful information on how Alaska school districts are implementing their PE and recess policies. Gathering and analyzing updated written policies from school districts was also an important step toward understanding and monitoring Alaska policies in the future.

In summary, a number of key concepts are highlighted as a result of this effort.

## PHYSICAL EDUCATION

Adopting written policies provides school districts with a higher likelihood of implementation. However, while a low percentage of Alaska's school districts have adopted written policies, a moderate percentage of school districts have practices consistent with nationally recommended standards. Physical Education is not currently prioritized as a core curriculum requirement. There seems to be a desire among districts for this to change.

## STAFF AND PROFESSIONAL DEVELOPMENT

Several survey respondents conveyed the need for more professional development in the PE field. Resources and incentives to increase available professional development opportunities should be considered.

## POLICY ON WITHHOLDING PE OR RECESS

A modest number of school districts have a policy that prohibits the exclusion of students from PE or recess as a form of punishment. School districts should be encouraged to adopt this policy.

## WAIVERS AND EXEMPTIONS

NASPE recommends that substitutions, exemptions, and waivers for PE not be allowed. The State of Alaska, however, does not prohibit the use of waivers. Assuming the State of Alaska does not intend on changing this policy, alternative methods should be explored to assure PE program requirements are met not through extracurricular activities.

## FACILITIES/EQUIPMENT

The majority of districts do have adequate facilities in most or all of their schools, however, many reported equipment needs. Perhaps supplemental funding outside of the Capital Improvement Project (CIP) process could be considered.

## RECESS

While educators agree on the importance of physical activity to complement academics, there appears to be a hesitance to a) put specific minutes into the policy, and; b) to schedule time for recess into the school day. Additionally, there appears to be a disconnect between written policy minutes and minutes provided in practice. There is a need for further exploration as to how school districts can to adopt policies that reflect their actual practice.

Written policies, curriculum, professional development, facilities and recess time are all important elements to assessing Alaska's school districts PE and recess policies. **Appendix I** provides a list of suggested questions for future consideration as this critical public health issue continues to be a priority for the State of Alaska.



# The Association Between School-Based Physical Activity, Including Physical Education, and Academic Performance



**U.S. Department of Health and Human Services**  
Centers for Disease Control and Prevention  
National Center for Chronic Disease Prevention and Health Promotion  
Division of Adolescent and School Health  
[www.cdc.gov/HealthyYouth](http://www.cdc.gov/HealthyYouth)



Revised Version — July 2010  
(Replaces April 2010 Early Release)

# EXECUTIVE SUMMARY

When children and adolescents participate in the recommended level of physical activity—at least 60 minutes daily—multiple health benefits accrue. Most youth, however, do not engage in recommended levels of physical activity. Schools provide a unique venue for youth to meet the activity recommendations, as they serve nearly 56 million youth. At the same time, schools face increasing challenges in allocating time for physical education and physical activity during the school day.

There is a growing body of research focused on the association between school-based physical activity, including physical education, and academic performance among school-aged youth. To better understand these connections, this review includes studies from a range of physical activity contexts, including school-based physical education, recess, classroom-based physical activity (outside of physical education and recess), and extracurricular physical activity. The purpose of this report is to synthesize the scientific literature that has examined the association between school-based physical activity, including physical education, and academic performance, including indicators of cognitive skills and attitudes, academic behaviors, and academic achievement.

## Methods

For this review, relevant research articles and reports were identified through a search of nine electronic databases, using both physical activity and academic-related search terms. The search yielded a total of 406 articles that were examined to determine their match with the inclusion criteria. Forty-three articles (reporting a total of 50 unique studies) met the inclusion criteria and were read, abstracted, and coded for this synthesis.

Coded data from the articles were used to categorize and organize studies first by their physical activity context (i.e., physical education, recess, classroom-based physical activity, and extracurricular physical activities), and then by type of academic performance outcome. Academic performance outcomes were grouped into three categories: 1) academic achievement (e.g.,

grades, test scores); 2) academic behavior (e.g., on-task behavior, attendance); and 3) cognitive skills and attitudes (e.g., attention/concentration, memory, mood). Findings of the 43 articles that explored the relationship between indicators of physical activity and academic performance were then summarized.

## Results

Across all 50 studies (reported in 43 articles), there were a total of 251 associations between physical activity and academic performance, representing measures of academic achievement, academic behavior, and cognitive skills and attitudes. Measures of cognitive skills and attitudes were used most frequently (112 of the 251 associations tested). Of all the associations examined, slightly more than half (50.5%) were positive, 48% were not significant, and only 1.5% were negative. Examination of the findings by each physical activity context provided insights regarding specific relationships.

### 1) *School-Based Physical Education Studies*

School-based physical education as a context category encompassed 14 studies (reported in 14 articles) that examined physical education courses or physical activity conducted in physical education class. Typically, these studies examined the impact of increasing the amount of time students spent in physical education class or manipulating the activities during physical education class. Overall, increased time in physical education appears to have a positive relationship or no relationship with academic achievement. Increased time in physical education does not appear to have a negative relationship with academic achievement. Eleven of the 14 studies found one or more positive associations between school-based physical education and indicators of academic performance; the remaining three studies found no significant associations.

### 2) *Recess Studies*

Eight recess studies (reported in six articles) explored the relationship between academic performance and recess during the school day in elementary schools. Six studies tested an intervention to examine how recess impacts indicators of academic performance;

the other two studies explored the relationships between recess and school adjustment or classroom behavior. Time spent in recess appears to have a positive relationship with, or no relationship with, children's attention, concentration, and/or on-task classroom behavior. All eight studies found one or more positive associations between recess and indicators of cognitive skills, attitudes, and academic behavior; none of the studies found negative associations.

### **3) Classroom Physical Activity Studies**

Nine studies (reported in nine articles) explored physical activity that occurred in classrooms apart from physical education classes and recess. In general, these studies explored short physical activity breaks (5–20 minutes) or ways to introduce physical activity into learning activities that were either designed to promote learning through physical activity or provide students with a pure physical activity break. These studies examined how the introduction of brief physical activities in a classroom setting affected cognitive skills (aptitude, attention, memory) and attitudes (mood); academic behaviors (on-task behavior, concentration); and academic achievement (standardized test scores, reading literacy scores, or math fluency scores). Eight of the nine studies found positive associations between classroom-based physical activity and indicators of cognitive skills and attitudes, academic behavior, and academic achievement; none of the studies found negative associations.

### **4) Extracurricular Physical Activity Studies**

Nineteen studies (reported in 14 articles) focused specifically on the relationship between academic performance and activities organized through school that occur outside of the regular school day. These activities included participation in school sports (interscholastic sports and other team or individual sports) as well as other after-school physical activity programs. All 19 studies examining the relationships between participation in extracurricular physical activities and academic performance found one or more positive associations.

## **Strengths and Limitations**

This review has a number of strengths. It involved a systematic process for locating, reviewing, and coding the studies. Studies were obtained using an extensive array of search terms and international databases and were reviewed by multiple trained coders. The studies cover a broad array of contexts in which youth participate in school-based physical activities and span a period of 23 years. Furthermore, a majority (64%) of studies included in the review were intervention studies, and a majority (76%) were longitudinal.

The breadth of the review, however, is a limitation. All studies meeting the established review criteria were included and treated equally, regardless of the study characteristics (e.g., design, sample size). The studies were not ranked, weighted, or grouped according to their strengths and limitations. The breadth of the review, while revealing a variety of study designs, measures, and populations, often made comparisons and summaries difficult. As a result, conclusions are intentionally broad.

## **Implications for Policy**

There are a number of policy implications stemming from this review:

- There is substantial evidence that physical activity can help improve academic achievement, including grades and standardized test scores.
- The articles in this review suggest that physical activity can have an impact on cognitive skills and attitudes and academic behavior, all of which are important components of improved academic performance. These include enhanced concentration and attention as well as improved classroom behavior.
- Increasing or maintaining time dedicated to physical education may help, and does not appear to adversely impact, academic performance.

## Implications for Schools

The results of this review support several strategies that schools can use to help students meet national physical activity recommendations without detracting from academic performance:

- **School-based physical education:** To maximize the potential benefits of student participation in physical education class, schools and physical education teachers can consider increasing the amount of time students spend in physical education or adding components to increase the quality of physical education class. Articles in the review examined increased physical education time (achieved by increasing the number of days physical education was provided each week or lengthening class time) and/or improved quality of physical education (achieved through strategies such as using trained instructors and increasing the amount of active time during physical education class).
- **Recess:** School boards, superintendents, principals, and teachers can feel confident that providing recess to students on a regular basis may benefit academic behaviors, while also facilitating social development and contributing to overall physical activity and its associated health benefits. There was no evidence that time spent in recess had a negative association with cognitive skills, attitudes, or academic behavior.
- **Classroom-based physical activity:** Classroom teachers can incorporate movement activities and physical activity breaks into the classroom setting that may improve student performance and the classroom environment. Most interventions reviewed here used short breaks (5–20 minutes) that required little or no teacher preparation, special equipment, or resources.
- **Extracurricular physical activities:** The evidence suggests that superintendents, principals, and athletic directors can develop or continue school-based sports programs without concern that these activities have a detrimental impact on students' academic performance. School administrators and teachers also can encourage after-school organizations, clubs, student groups, and parent groups to incorporate physical activities into their programs and events.



## POLICY STATEMENT

## The Crucial Role of Recess in School

## COUNCIL ON SCHOOL HEALTH

## KEY WORDS

play, recess, school

## ABBREVIATION

AAP—American Academy of Pediatrics

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## abstract

FREE

Recess is at the heart of a vigorous debate over the role of schools in promoting the optimal development of the whole child. A growing trend toward reallocating time in school to accentuate the more academic subjects has put this important facet of a child's school day at risk. Recess serves as a necessary break from the rigors of concentrated, academic challenges in the classroom. But equally important is the fact that safe and well-supervised recess offers cognitive, social, emotional, and physical benefits that may not be fully appreciated when a decision is made to diminish it. Recess is unique from, and a complement to, physical education—not a substitute for it. The American Academy of Pediatrics believes that recess is a crucial and necessary component of a child's development and, as such, it should not be withheld for punitive or academic reasons. *Pediatrics* 2013;131:183–188

## THE BENEFITS OF RECESS FOR THE WHOLE CHILD

The Centers for Disease Control and Prevention defines recess as “regularly scheduled periods within the elementary school day for unstructured physical activity and play.”<sup>1</sup> The literature examining the global benefits of recess for a child's cognitive, emotional, physical, and social well-being has recently been reviewed.<sup>2</sup> Yet, recent surveys and studies have indicated a trend toward reducing recess to accommodate additional time for academic subjects in addition to its withdrawal for punitive or behavioral reasons.<sup>3–6</sup> Furthermore, the period allotted to recess decreases as the child ages and is less abundant among children of lower socioeconomic status and in the urban setting.<sup>4,7</sup>

Just as physical education and physical fitness have well-recognized benefits for personal and academic performance, recess offers its own, unique benefits. Recess represents an essential, planned respite from rigorous cognitive tasks. It affords a time to rest, play, imagine, think, move, and socialize.<sup>8–11</sup> After recess, for children or after a corresponding break time for adolescents, students are more attentive and better able to perform cognitively.<sup>12–16</sup> In addition, recess helps young children to develop social skills that are otherwise not acquired in the more structured classroom environment.<sup>8,11,17</sup>

## COGNITIVE/ACADEMIC BENEFITS

Children develop intellectual constructs and cognitive understanding through interactive, manipulative experiences. This type of exploratory



experience is a feature of play in an unstructured social environment.<sup>8,18</sup> Optimal cognitive processing in a child necessitates a period of interruption after a period of concentrated instruction.<sup>19,20</sup> The benefits of these interruptions are best served by unstructured breaks rather than by merely shifting from 1 cognitive task to another to diminish stresses and distractions that interfere with cognitive processing.<sup>9,11,15,20</sup> Several studies demonstrated that recess, whether performed indoors or outdoors, made children more attentive and more productive in the classroom.<sup>11–13,16,19,21</sup> This finding was true even though, in many cases, the students spent much of their recess time socializing. In fact, a student's ability to refocus cognitively was shown to be stimulated more by the break from the classroom than by the mode of activity that occurred during that break; any type of activity at recess benefited cognitive performance afterward.<sup>14</sup> Although specified time afforded for recess diminishes with age, the benefits of periodic breaks in the academic day to optimize cognitive processing applies equally to adolescents and to younger children.

## **SOCIAL AND EMOTIONAL BENEFITS**

Recess promotes social and emotional learning and development for children by offering them a time to engage in peer interactions in which they practice and role play essential social skills.<sup>8,17,18,22,23</sup> This type of activity, under adult supervision, extends teaching in the classroom to augment the school's social climate. Through play at recess, children learn valuable communication skills, including negotiation, cooperation, sharing, and problem solving as well as coping skills, such as perseverance and self-control.<sup>8–11,15,17,22</sup> These skills become fundamental, lifelong personal tools.

Recess offers a child a necessary, socially structured means for managing stress. By adapting and adjusting to the complex school environment, children augment and extend their cognitive development in the classroom.<sup>15,17</sup>

## **PHYSICAL BENEFITS**

There is a wealth of literature published on the need for and benefit of physical activity and fitness, not only for a child's physical well-being but also for academic and social maturation.<sup>5,12,22–33</sup> Although not all children play vigorously at recess, it does provide the opportunity for children to be active in the mode of their choosing and to practice movement and motor skills. Importantly, recess affords young children free activity for the sheer joy of it.<sup>34</sup> Even minor movement during recess counterbalances sedentary time at school and at home and helps the child achieve the recommended 60 minutes of moderate to vigorous activity per day, a standard strongly supported by the American Academy of Pediatrics (AAP) policy, which can help lower risk of obesity.<sup>5,12,30–35</sup>

## **SAFETY AND SUPERVISION**

A child's safety during recess is a concern for many parents, teachers, and administrators. Some schools even have chosen to ban games or activities deemed unsafe and, in some cases, to discontinue recess altogether in light of the many issues connected with child safety.<sup>10,36</sup> Although schools should ban games and activities that are unsafe, they should not discontinue recess altogether just because of concerns connected with child safety. There are measures schools can take to address these concerns and protect children while still preserving play during recess.<sup>5,11,24,28,34,37,38</sup> Compliance with the Consumer Product Safety Commission's

Playground Safety Handbook (<http://www.cpsc.gov/CPSCPUB/PUBS/325.pdf>) will help to ensure proper maintenance of playground equipment that meets all of the following applicable federal guidelines:

1. Provision of adequate safe spaces and facilities.
2. Maintenance of developmentally appropriate equipment with regular inspections.
3. Establishment and enforcement of safety rules.
4. Implementation of recess curriculum in physical education classes to teach games, rules, and conflict resolution.
5. Establishment of a school-wide, clear policy to prevent bullying or aggressive behavior.
6. Provision of adequate supervision by qualified adults who can intervene in the event a child's physical or emotional safety is in jeopardy.

Some playgrounds in areas with a high risk of violence may require additional protective measures to ensure the safety of children.

## **THE EMERGING ISSUE OF STRUCTURED RECESS**

Structured recess is a recess based on structured play, during which games and physical activities are taught and led by a trained adult (teachers, school staff, or volunteers). Proponents for structured recess note that children often need help in developing games and require suggestions and encouragement to participate in physical activities. Recently, policy makers and funding organizations have called for more opportunities for daily activity as a means to address childhood obesity. These statements have strengthened the argument to maintain or reinstate recess as an integral component of the school day.<sup>12,25,30,34</sup> Although this new dimension to the recess debate has

increased attention on its role, it also has created tension. Some have promoted recess time as a solution for increasing children's physical activity and combating obesity. If recess assumes such a role, then, like physical education, it will need to be planned and directed to ensure that all children are participating in moderately vigorous physical activity.<sup>4,7,12,31,33,38</sup> Pediatric health care providers, parents, and school officials should be cognizant, however, that in designing a structured recess, they will sacrifice the notion of recess as an unstructured but supervised break that belongs to the child; that is, a time for the child to make a personal choice between sedentary, physical, creative, or social options.<sup>2,8–10,18,22–24,30,34,37,39</sup> However, there are many cited benefits of structured recess to consider, including<sup>12</sup>:

- Older elementary children may benefit from game instruction and encouragement for total class inclusion.
- Children can be coached to develop interpersonal skills for appropriate conflict resolution.
- More children can actively participate in regular activity, irrespective of skill level.
- Anecdotally, teachers have reported improved behavior and attention in the classroom after vigorous structured recess.

To be effective, structured recess requires that school personnel (or volunteers) receive adequate training so that they are able to address and encourage the diverse needs of all students.<sup>12,38</sup> One aspect of supervision should be to facilitate social relationships among children by encouraging inclusiveness in games. A problem arises when the structured activities of recess are promoted as a replacement for the child's physical education requirement. The replacement of physical

education by recess threatens students' instruction in and acquisition of new motor skills, exploration of sports and rules, and a concept of lifelong physical fitness.<sup>24,30,34</sup>

There are ways to encourage a physically active recess without necessarily adding structured, planned, adult-led games, such as offering attractive, safe playground equipment to stimulate free play; establishing games/boundaries painted on the playground; or instructing children in games, such as four square or hopscotch.<sup>37,38,40</sup> These types of activities can range from fully structured (with the adult directing and requiring participation) to partly unstructured (with adults providing supervision and initial instruction) to fully unstructured (supervision and social guidance). In structured, partly structured, or unstructured environments, activity levels vary widely on the basis of school policy, equipment provided, encouragement, age group, gender, and race.<sup>4,7,30,38,40</sup> Consequently, the potential benefits of mandatory participation of all children in a purely structured recess must be weighed against the potential social and emotional trade-off of limiting acquisition of important developmental skills. Whichever style is chosen, recess should be viewed as a supplement to motor skill acquisition in physical education class.<sup>5,23,24,33,34</sup>

## DURATION AND TIMING OF RECESS

In the United States, the duration and timing of recess periods vary by age, grade, school district, and sometimes by building.<sup>4,7</sup> The majority of elementary schools that offer lunch-time recess do so after the students eat lunch.<sup>4,37,41–44</sup> Many school wellness councils have adopted the "Recess Before Lunch" concept which stems from studies that examined food waste by students in relation to the

timing of their recess.<sup>42–44</sup> When students have recess before lunch, more time is taken for lunch and less food is wasted. In addition, teachers and researchers noted an improvement in the student behavior at meal time, which carried into the classroom in the afternoon. The Centers for Disease Control and Prevention and the US Department of Agriculture support the concept of scheduling recess before lunch as part of a school's wellness policy.<sup>2,45</sup>

Peer-reviewed research has examined the timing and type of activity during recess and chronicled the many benefits of recess for children, without establishing an optimal required duration.<sup>2,8,12,13,18,19,21</sup> There is consensus about the need for regularly scheduled recess based on national guidelines, even though the length of the recess period has not been firmly established. In schools, the length specified for recess ranges widely, from 20 to 60 minutes per day.<sup>24,30</sup> In other countries, such as Japan, primary school-aged children have a 10- to 15-minute break every hour, and this is thought to reflect the fact that attention spans begin to wane after 40 to 50 minutes of intense instruction.<sup>46</sup> On the basis of this premise, to maximize cognitive benefits, recess should be scheduled at regular intervals, providing children sufficient time to regain their focus before instruction continues.

## CONCLUSIONS

School attendance represents a unique opportunity to address nutrition and physical fitness. Each day, 55 million US students attend school, which constitutes nearly one-half of their wakeful hours.<sup>47</sup> In light of rising rates of overweight and obesity, schools have come under increased scrutiny. Within the school environment, there are competing calls for stricter standards and greater academic achievement as

well as calls for schools to provide greater opportunities for nonsedentary daily activity. Even with ample evidence of a whole-child benefit from recess, significant external pressures, such as standardized cognitive testing mandated by educational reforms, have led some to view recess as time that would be better spent on academics.<sup>4</sup> Time previously dedicated to daily activity in school, such as physical education and recess, is being reallocated to make way for additional academic instruction.

Ironically, minimizing or eliminating recess may be counterproductive to academic achievement, as a growing body of evidence suggests that recess promotes not only physical health and social development but also cognitive performance.<sup>10,37</sup> Although recess and physical education both promote activity and a healthy lifestyle, it is only supervised but unstructured recess that offers children the opportunity to actually play creatively. In this sense, then, pediatricians' support of recess is an extension of the AAP's policy statement supporting free play as a fundamental component of a child's normal growth and development.<sup>16</sup> On the basis of an abundance of scientific studies, withholding recess for punitive or academic reasons would seem to be counterproductive to the intended outcomes and may have unintended consequences in relation to a child's acquisition of important life skills.

## RECOMMENDATIONS

In their role as child health experts, the pediatricians of the AAP stress the following perspective to parents, teachers, school administrators, and policy makers:

1. Recess is a necessary break in the day for optimizing a child's social, emotional, physical, and cognitive development. In essence, recess should be considered a child's personal time, and it should not be withheld for academic or punitive reasons.
2. Cognitive processing and academic performance depend on regular breaks from concentrated classroom work. This applies equally to adolescents and to younger children. To be effective, the frequency and duration of breaks should be sufficient to allow the student to mentally decompress.
3. Recess is a complement to, but not a replacement for, physical education. Physical education is an academic discipline. Whereas both have the potential to promote activity and a healthy lifestyle, only recess (particularly unstructured recess) provides the creative, social, and emotional benefits of play.
4. Recess can serve as a counterbalance to sedentary time and contribute to the recommended 60 minutes of moderate to vigorous activity per day, a standard strongly supported by AAP policy as a means to lessen risk of overweight.
5. Whether structured or unstructured, recess should be safe and well supervised. Although schools should ban games and activities that are unsafe, they should not discontinue recess altogether just because of concerns connected with child safety. Environmental conditions, well-maintained playground equipment, and well-trained supervisors are the critical components of safe recess.
6. Peer interactions during recess are a unique complement to the classroom. The lifelong skills acquired for communication, negotiation, cooperation, sharing, problem solving, and coping are not only foundations for healthy development but also fundamental measures of the school experience.

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**Peter Gray Ph.D.**  
**Freedom to Learn**

# The Decline of Play and Rise in Children's Mental Disorders

There's a reason kids are more anxious and depressed than ever.

Posted Jan 26, 2010

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Rates of [depression \(/basics/depression\)](#) and [anxiety \(/basics/anxiety\)](#) among young people in America have been increasing steadily for the past 50 to 70 years. Today, by at least some estimates, five to eight times as many high school and college students meet the criteria for diagnosis of major depression and/or anxiety disorder as was true half a century or more ago. This increased psychopathology is not the result of changed diagnostic criteria; it holds even when the measures and criteria are constant.

The most recent evidence for the sharp generational rise in young people's depression, anxiety, and other mental disorders comes from a just-released study headed by Jean Twenge at San Diego State University.[1] Twenge and her colleagues took advantage of the fact that the Minnesota Multiphasic [Personality \(/basics/personality\)](#) Inventory (MMPI), a questionnaire used to assess a variety of mental disorders, has been given to large samples of college students throughout the United States going as

far back as 1938, and the MMPI-A (the version used with younger adolescents) has been given to samples of high school students going as far back as 1951. The results are consistent with other studies, using a variety of indices, which also point to dramatic increases in anxiety and depression—in children as well as adolescents and young adults—over the last five or more decades.

We would like to think of history as progress, but if progress is measured in the mental [health](/basics/health) and [happiness](/basics/happiness) of young people, then we have been going backward at least since the early 1950s.

The question I want to address here is why.

The increased psychopathology seems to have nothing to do with realistic dangers and uncertainties in the larger world. The changes do not correlate with economic cycles, wars, or any of the other kinds

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the turbulent 1960s and early '70s than they are today. The changes seem to have much more to do with the way young people view the world than with the way the world actually *is*.

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One thing we know about anxiety and depression is that they correlate significantly with people's sense of control or lack of control over their own lives. People who believe that they are in charge of their own fate are less likely to become anxious or depressed than those who believe that they are victims of circumstances beyond their control. You might think that the sense of personal control would have increased over the last several decades. Real progress has occurred in our ability to prevent and treat diseases; the old prejudices that limited people's options because of [race](/basics/race-and-ethnicity), [gender](/basics/gender), or [sexual orientation](/basics/sexual-orientation) have diminished; and the average person is wealthier than in decades past. Yet the data indicate that young people's belief that they have control over their own destinies has *declined* sharply over the decades.

The standard measure of sense of control is a questionnaire developed by Julien Rotter in the late 1950s called the Internal-External Locus of Control Scale. The questionnaire consists of 23 pairs of statements. One statement in each pair represents belief in an *Internal locus of control* (control by the person) and the other represents belief in an *External locus of control* (control by circumstances outside of the person). The person taking the test must decide which statement in each pair is more true. One pair, for example, is the following:



- (a) *I have found that what is going to happen will happen.*
- (b) *Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.*

In this case, choice (a) represents an External locus of control and (b) represents an Internal locus of control.

Many studies over the years have shown that people who score toward the Internal end of Rotter's scale fare better in life than do those who score toward the External end.[2] They are more likely to get good jobs that they enjoy, take care of their health, and play active roles in their communities—and they are less likely to become anxious or depressed.

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many previous studies that used Rotter's Scale with young people from 1960 through 2002.[3] They found that over this period average scores shifted dramatically—for children aged 9 to 14 as well as for college students—away from the Internal toward the External end of the scale. In fact, the shift was so great that the average young person in 2002 was more External than were 80% of young people in the 1960s. The rise in Externality on Rotter's scale over the 42-year period showed the same linear trend as did the rise in depression and anxiety.

*[Correction: The locus of control data used by Twenge and her colleagues for children age 9 to 14 came from the Nowicki-Strickland Scale, developed by Bonnie Strickland and Steve Nowicki, not from the Rotter Scale. Their scale is similar to Rotter's, but modified for use with children.]*

It is reasonable to suggest that the rise of Externality (and decline of Internality) is causally related to the rise in anxiety and depression. When people believe that they have little or no control over their fate they become anxious: "Something terrible can happen to me at any time and I will be unable to do anything about it." When the anxiety and sense of helplessness become too great people become depressed: "There is no use trying; I'm doomed."

### Shift Toward Extrinsic Goals (/basics/motivation), Away From Intrinsic Goals

Twenge's own theory is that the generational increases in anxiety and depression are related to a shift from "intrinsic" to "extrinsic" goals.[1] Intrinsic goals are those that have to do with one's own development as a person—such as becoming competent in endeavors of one's choosing and developing a meaningful philosophy (/basics/philosophy) of life. Extrinsic goals, on the other hand, are

those that have to do with material rewards and other people's judgments. They include goals of high income, status, and good looks. Twenge cites evidence that young people today are, on average, more oriented toward *extrinsic* goals and *less* oriented toward intrinsic goals than they were in the past. For example, a annual poll of college freshmen shows that most students today list "being well off financially" as more important to them than "developing a meaningful philosophy of life"—the reverse was true in the 1960s and 1970s.[4]

The shift toward extrinsic goals could well be related causally to the shift toward an External locus of control. We have much less personal control over achievement of extrinsic goals than intrinsic goals. I can, through personal effort, quite definitely improve my competence, but that doesn't guarantee that I'll get rich. I can, through spiritual (/basics/spirituality) practices or philosophical delving, find my own sense of meaning in life, but that doesn't guarantee that people will find me more attractive or lavish praise on me. To the extent that my emotional sense of satisfaction comes from progress toward intrinsic goals I can control my emotional wellbeing. To the extent that my satisfaction comes from others' judgments and rewards, I have much less control over my emotional state.

Twenge suggests that the shift from intrinsic to extrinsic goals represents a general shift toward a culture of materialism (/basics/consumer-behavior), transmitted through television and other media. Young people are exposed from birth to advertisements and other messages implying that happiness depends on good looks, popularity, and material goods. My guess is that Twenge is at least partly correct on this, but I will suggest a further cause, which I think is even more significant and basic: My hypothesis is that the generational increases in Externality, extrinsic goals, anxiety, and depression are all caused largely by the decline, over that same period, in opportunities for free play and the increased time and weight given to schooling.

### **How the Decline of Free Play May Have Caused a Decline in Sense of Control and in Intrinsic Goals, and a Rise in Anxiety and Depression**

As I pointed out here (<http://www.psychologytoday.com/blog/freedom-learn/200907/hillary-clinton-s-and-my-wonderful-childhoods-trustful-parenting-continued>) and here (<http://www.psychologytoday.com/blog/freedom-learn/200907/why-have-trustful-parenting-and-children-s-freedom-declined-in-recent-deca>)—and as others have pointed out in recent popular books[5]—children's freedom to play and explore on their own, independent of direct adult guidance and direction, has declined greatly in recent decades. Free play and exploration are, historically, the means by which children learn to solve their own problems, control their own lives, develop their own interests, and become competent in pursuit of their own interests. This has been the theme of many of my previous posts. (See, for example, the series of posts on "The Value of Play.") In fact, play, by

definition, is activity controlled and directed by the players; and play, by definition (<http://www.psychologytoday.com/blog/freedom-learn/200811/the-value-play-i-the-definition-play-provides-clues-its-purposes>), is directed toward intrinsic rather than extrinsic goals

By depriving children of opportunities to play on their own, away from direct adult supervision and control, we are depriving them of opportunities to learn how to take control of their own lives. We may think we are protecting them, but in fact we are diminishing their joy, diminishing their sense of self-control ([/basics/self-control](#)), preventing them from discovering and exploring the endeavors they would most love ([/basics/relationships](#)), and increasing the odds that they will suffer from anxiety, depression, and other disorders.

### How Coercive Schooling Deprives Young People of Personal Control, Directs Them Toward Extrinsic Goals, and Promotes Anxiety and Depression



Source: Oko Laa/Shutterstock

During the same half-century or more that free play has declined, school and school-like activities (such as lessons out of school and adult-directed sports ([/basics/sport-and-competition](#))) have risen continuously in prominence. Children today spend more hours per day, days per year, and years of their life in school than ever before. More weight is given to tests and grades than ever. Outside of school, children spend more time than ever in settings in which they are directed, protected, catered to, ranked, judged, and rewarded by adults. In all of these settings adults are in control, *not* children.

In school, children learn quickly that their own choices of activities and their own judgments of competence don't count; what matters are the *teachers'* choices and judgments. Teachers are not entirely predictable: You may study hard and still get a poor grade because you didn't figure out *exactly* what the teacher wanted you to study or guess correctly what questions he or she would ask. The goal in class, in the minds of the great majority of students, is not competence but good grades. Given a choice between really learning a subject and getting an A, the great majority of students would, without hesitation, pick the latter. That is true at every stage in the educational process, at least up to the level of graduate school. That's not the fault

of students; that's *our* fault. We've set it up that way. Our system of constant testing and evaluation in school—which becomes increasingly intense with every passing year—is a system that very clearly substitutes extrinsic rewards and goals for intrinsic ones. It is almost designed to produce anxiety and depression.[6]

School is also a place where children have little choice about with whom they can associate. They are herded into spaces filled with other children that they did not choose, and they must spend a good portion of each school day in those spaces. In free play, children who feel harassed or bullied can leave the situation and find another group that is more compatible; in school they cannot. Whether the bullies are other students or teachers (which is all too common), the child usually has no choice but to face those persons day after day.

The results are sometimes disastrous.

A few years ago, Mihaly Csikszentmihalyi and Jeremy Hunter conducted a study of happiness and unhappiness in public school students in 6th through 12th grade.[7] Each of 828 participants, from 33 different schools in 12 different communities across the country, wore a special wristwatch for a week, programmed to provide a signal at random times between 7:30 am and 10:30 pm. Whenever the signal went off participants filled out a questionnaire indicating where they were, what they were doing, and how happy or unhappy they were at the moment.

The lowest levels of happiness by far (surprise, surprise) occurred when children were at school, and the *highest* levels occurred when they were out of school and conversing or playing with friends. Time spent with parents (/basics/parenting) fell in the middle of the range. Average happiness increased on weekends, but then plummeted from late Sunday afternoon through the evening, in anticipation of the coming school week.

As a society we have come to the conclusion that children must spend increasing amounts of time in the very setting where they *least* want to be. The cost of that belief, as measured by the happiness and mental health of our children, is enormous.

It is time to re-think education (/basics/education).

## Another Way

Anyone who looks honestly at the experiences of students at Sudbury model democratic schools and of unschoolers—where freedom, play, and self-directed exploration prevail—knows that there is

another way. We don't need to drive kids crazy to educate them. Given freedom and opportunity, without coercion, young people educate *themselves*. They do so joyfully, and in the process develop intrinsic values, personal self-control, and emotional wellbeing. That's the overriding message of the whole series of essays in this blog. It's time for society to take an honest look.

In my last post (<http://www.psychologytoday.com/blog/freedom-learn/201001/i-want-your-stories-self-directed-learning>) I invited readers to submit their stories of self-directed education, and many of you have responded. That invitation is still open, but please respond soon (<http://www.psychologytoday.com/blog/freedom-learn/201001/i-want-your-stories-self-directed-learning>). Over the next several weeks I will post essays about how children learn to read through their self-directed play and exploration, how and why they learn math, and how they develop special interests and skills that lead eventually to careers.

Stay tuned.

See new book, ***Free to Learn*** (<http://www.freetolearnbook.com>)

## Notes

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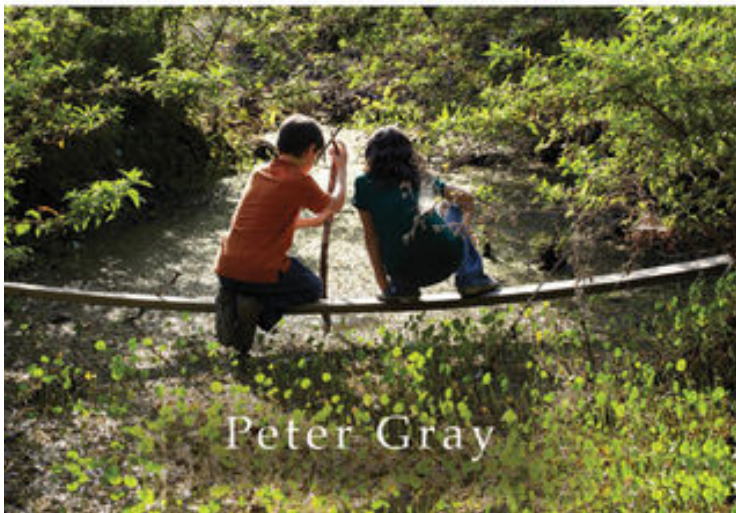
[4] Pryor, J. H., et al. (2007). *The American freshman: Forty-year trends, 1966-2006*. Los Angeles: Higher Education Research Institute.

[5] Examples of such books are Hara Estroff Marano's *A Nation of Wimps* and Lenore Skenazy's *Free Range Kids*.



# Free to LEARN

*Why Unleashing the Instinct to Play Will  
Make Our Children Happier, More Self-Reliant,  
and Better Students for Life*



Source: Basic Books, with permission

[6] Consistent with this claim is evidence that the more academically competitive the school, the greater is the incidence of student depression. Herman, K. C., et al. (2009). Childhood depression (/conditions/depressive-disorders-children-and-adolescents): Rethinking the role of school. *Psychology in the Schools*, 46, 433-446.

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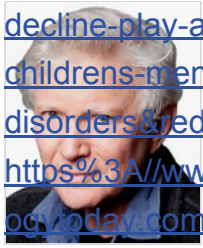
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(<https://www.psychologytoday.com/blog/freedom-learn/201001/the-decline-play-and-rise-in-childrens-mental-disorders>)

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## Recess: Necessity or Nicety?



The pressure for schools to improve student test scores is so intense that some are abandoning the childhood treasure of "recess" in lieu of more on-task time. Education World asked educators about recess practices at their schools and the importance of free time for kids to be kids. What might their responses tell you about the importance of recess at your school? Included: Tips for a safe and productive recess period.

"I believe quite strongly that there is great value in play. Play is learning lessons that often can't be learned anyplace else. I believe that taking away time to play will *not* raise test scores. It seems that with all the rush to pass standardized tests, children have less and less time to play and enjoy it," teacher Marlie Griffin tells Education World. In Griffin's school, Kent Prairie Elementary in Arlington, Washington, a developmental approach to recess was put into place to give students structure and help them to play constructively. The goal was to give the students some skills in play that they seemed to lack. "We had problems with kids who didn't know how to play with one another and kids who got hurt because they are impulsive and sometimes don't act responsibly," Griffin tells Education World. "We worked on this last year. We made recess fun. Recess had a clublike atmosphere, and the kids really seemed to enjoy it. The developmental approach worked fairly well for children who have trouble in less-structured situations and those with inadequate social skills." Kent Prairie provides three recesses per day in kindergarten through second grade. Third- through fifth-grade classes have two. Para-educators supervise the recesses, which are held on two playgrounds. Older students and younger students may mingle during the recess periods.

### RECESS IN THE MIDDLE GRADES

According to Susan Meyer, principal of Meads Mill Middle School, older students also need time for relaxation and "play." "Middle school kids need to have unwinding and reflecting time just as adults do," Meyer tells Education World. "They can and do discuss stuff that went on in class too!" Sixth-, seventh-, and eighth-grade students at Meyer's Northville, Michigan, school enjoy a recess as part of their lunch period. The students have separate lunch periods, according to grade level, followed by a 20-

Susan Meyer offers tips to help ensure a safe and productive recess period in the middle grades.

\*To avoid injuries, establish specific rules and make students aware of the levels of play allowed.

minute break for recess. Recess takes place in the gym or outside, explains Meyer. "Students can use foosball machines, play Ping-Pong, sit and talk, or play basketball in the gym. They may play volleyball and tether ball. Outside, we allow them to play basketball, soccer, wall ball, or football. They may run or relax and chat -- whatever -- as long as the game is safe and they are in sight of the monitor." During recess, free use of the restrooms and a pay phone is permitted - as long as the privilege isn't abused.

Students may also see teachers, use the library and computers, do make-up work, attend study sessions, and enjoy "lunch bunch" groups with staff. The principal and

the assistant principal are responsible for supervising recess. They have help from parent volunteers through a program run by the school PTSA. Parents at Lunch (PAL) gives the adults a chance to network too. "The school is the students' domain. Parents are always welcome, but many don't know how to become involved in the school. This is a great way to meet both the students' needs and the parents'," Meyer states. Meyer has several reasons for suggesting that middle school students *need* a recess.

- Middle school kids are learning to socialize as adolescents. They need to try out various roles, and school is a safe environment.
- They need to control their unstructured time to use it well.
- They are growing at different rates and are at various levels of development physically, mentally, and emotionally. They need to be able to try out their skills and their muscles and use their energy.
- The students get to relate to administrators in informal settings. Says Meyer, "It is amazing what I can find out about a kid [during recess time], or I can connect with kids I wouldn't ordinarily see. Lots of teaching goes on during this time, and I learn too!"

## RECESS REACHES HIGH SCHOOL

"Many students enjoy sitting back on the bleachers or outside, just relaxing for a few minutes," says teaching assistant Brigid Heckman. "This world is so hurried up, go, go, go all the time, that we need to teach our children to stop and take time to smell the roses, even in the structured environment that school offers." Heckman remembers what spurred her to work with a superintendent last year and organize a program of community volunteers to assist with giving students a recess. With one aide watching the entire group of students, all the children had to stay in their seats in the lunchroom until the teachers arrived to retrieve their classes. The cafeteria of Greenwood Central School in Greenwood, New York, was so noisy that students were not able to eat comfortably. "I coordinated the volunteers," explains Heckman. "At the end of the school year last year, we could get volunteers probably three out of the five lunch days for recess. We generally had two volunteers per recess session." The school no longer needs volunteers because the staff has found ways to make more-efficient use of the teacher aides' time. Now every class has a 15-minute recess after lunch, even high school students. "Everyone needs unstructured time during the course of a day -- even in school! For children, recess is important; it helps kids develop social and physical skills, if in a supervised environment," says Heckman. "Recess helps kids blow off steam and take a breather. Educators need to know that high test scores are important, but so is a small amount of unstructured playtime, especially to a 7-year-old!"

<p>*Invite parents to help supervise the recess period.</p> <p>*Cut back any bushes or shrubs on school property.</p> <p>*Restrict the play area to observable places.</p> <p>*Keep administrators moving so kids never know where they will turn up next.</p> <p>*Secure paid teacher help if it is possible.</p>
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# Alaska Dispatch News

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[Home](#) > Reducing obesity in Alaska's schools

Jerzy Shedlock <sup>[1]</sup>

September 5, 2013

**Main Image:**

St Lawrence 9 <sup>[2]</sup>

**Main Image Caption:**

The Alaska Obesity and Prevention and Control Program has aided school districts statewide to fight childrens' bulging waistlines, and this school year, it will begin putting boots on the ground to help schools at the front lines. Pictured are children playing in the St. Lawrence Island village of Gambell. August 29, 2012

In a state known for active outdoor enthusiasts and stocks of nutritious salmon, it may surprise people to know that the prevalence of childhood obesity in Alaska nearly mirrors national rates. The Alaska Obesity and Prevention and Control Program has aided school districts statewide to swim against the weight-gain current, and this school year, it will begin putting boots on the ground in an effort help schools reduce obesity rates.

Eight Alaska school districts have been awarded four-year grants that should improve students' nutritional choices and physical activities, as well as increase communication among teachers, parents and administrators about the plans to deter youth from gravitating toward TV and McDonald's and shying away from tomatoes and mountain biking.

## Working with new policies

A total of 11 districts, about a fifth of the districts statewide, applied for the competitive grants. They were awarded based on a long list of criteria, but grant recipients' most important selling points were successful implementation of past obesity-related projects, strong support from administrators, and the ability to execute new policies at the district level.

The ability to actually use and work within new policies is an ongoing issue. Over the past decade, national lawmakers have set new health standards in an attempt to partially fix what some advocates say is a broken education system, and districts receiving federal lunch funds have been required to pass school wellness policies.

"But we've found that at a lot of schools, they're getting nutritional food to kids, but they lack staff and time to coordinate extended work, such as physical and education initiatives," said Alaska Department of Health and Social Services school grants manager Lauren Kelsey.

Now, each of the eight selected districts will hire a coordinator tasked with developing programs and staying in touch with school nutritionists and the like. The new hires will also develop programs, some already underway in Alaska schools, such as serving local produce and salmon in cafeterias.

"We found from doing tobacco prevention and control that ... you start seeing successes in years two, three, four," said Obesity Prevention and Control Program Director Karol Fink. "The first year



is to really just get the schools up to speed, but if you want to track success you need a little more time.”

## Tracking obesity

Health and Social Services will focus the initial year of the grants largely on data collection. Alaska’s urban districts -- Anchorage, Mat-Su, and Kenai Peninsula -- track obesity in their schools. But rural districts do not generally track the numbers of out-of-shape kids.

Officials intend to slow the state's climbing obesity rates by teaching kids healthy habits at an early age. According to an Alaska Department of Health and Social Services 2012 report, the rates among adult Alaskans doubled from 13 percent in 1991 to 27 percent in 2010.

Among Alaska high school students, as of last year, 26 percent are either overweight or obese. Alaska Native youth are significantly more likely to be overweight or obese than are white kids -- 32 percent versus 22 percent, respectively. And less than a quarter of high school students get the recommended 60 minutes of daily physical activity, according to the DHHS report.

"Overweight" and "obesity" are both labels for ranges of weight greater than what is generally considered healthy for a given height, the Centers for Disease Control and Prevention says. The ranges are determined by using weight and height to calculate a person’s body mass index, or BMI. Someone with a BMI between 25 and 29.9 is considered overweight, and 30 or higher is obese. For example, a five-foot-nine individual who weighs between 169 to 202 pounds generally has a BMI within the overweight range. Any heavier and they’d be considered obese.

More than one-third, or 35.7 percent, of Americans are obese or overweight, according to the CDC. Nationally, about 33 percent of high-school-aged Americans are obese or overweight, Fink said. Inactivity and extra pounds often translate to health issues, which in turn produce medical expenses. Obesity costs Alaska \$459 million each year in direct health care costs related to obesity.

The financial burden will only increase as the state struggles to implement federal health care mandates. State regulators have approved two insurers <sup>[3]</sup> to begin offering health coverage on Alaska's insurance exchange, a provision of the federal Patient Protection and Affordable Care Act (ACA) that aims to foster competition and consumer choice as a requirement takes effect that all individuals carry a health insurance plan.

## Free fresh fish for students

Once data collection about obesity in participating school districts is finished, the focus can shift to designing programs. And the state’s Farms to Schools program is well underway in the Mat-Su.

The Talkeetna Elementary School Parent-Teacher Association started its Health Lifestyles program two years ago. The project’s three main goals are supporting local farmers and produce, improving student nutrition and knowledge about healthy diets, and facilitating communication among food service providers, administrators and the PTA.

Students visited a local potato farm and created “local food art” as part of the program.

Farms to Schools said in an annual report that during a school event, nearly 100 percent of students “accurately picked the healthier food choice when given the option between two foods,” though data will be collected this spring to make sure the lesson stuck.

And whether or not sweets-craving students pick vegetables over candy outside the classroom remains to be seen. According to the CDC, about 13 percent of the Matanuska-Susitna Borough School District's students are obese, not just overweight.

Still, a salad bar was added to the school's lunchroom, which was supplemented by the Birch Creek Farm, the community supported agricultural (CSA) operation consisting of 100 acres of hayfields, two acres of berry crops and commercial greenhouses. The salad bar should remain in place for at least the next four years thanks to the grant.

Perhaps more Alaskan is the Fish to Schools program, which falls under the farms program.

Local fishermen in the communities of Dillingham, Kodiak and Sitka dedicate entire days of fishing to catching salmon for students and donate the haul to their local school districts.

Kodiak is leading the pack. During the 2011-2012 school year, roughly 5,400 pounds of fish were donated to the island community's school district. As of late May, when the Kodiak school district published its Farms to Schools annual report, about 500 pounds had been donated.

In some cases, students at those districts eat salmon once a week all year long.

"I think the beauty (of Alaska) is that we have potential to be healthier than the rest of the nation," Fink said. "We have so many resources and we're a rich state. We should be doing a better job, and we could be, and I think part of what we're trying to do through the grant program is to start connecting all the dots and establishing protective factors."

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# Ritalin vs. Recess: Are Drugs Really the Answer to the ADHD Epidemic?



By robbing kids of time to act like kids, then opting for medication over therapy, we may be undertaking a giant, uncontrolled experiment on the brains of children.

Jan 19, 2015



Michael Behar is a former science editor for *National Geographic*, a former senior editor for *Wired*, and a contributing writer for *Mother Jones*. When not reporting or kitesurfing, he lives in Boulder, Colo. with his wife and two children.

When Emma was just six months old, her parents, Kate and Jeff, began to suspect she was different from other infants. At mealtimes, Emma, their first child, would take two bites, and then her attention would wander. It took cajoling to get her to eat. As Emma got older, her peripatetic focus became evident in everything she did. “She wasn’t engaged with you or the activity,” Kate said. “She was off in her own world.” Shortly before Emma turned four, her preschool teacher informed Kate and Jeff, who live in San Francisco, that their daughter couldn’t follow directions or snap to attention when called upon. In 2009, Kate and Jeff met with a pediatrician and a child psychologist to discuss the issue. The experts arrived at the same conclusion: Emma likely had attention deficit/hyperactivity disorder, or ADHD. (Because of the stigma sometimes affecting people with ADHD or other mental health disorders, TakePart has honored the family’s request to use pseudonyms.)

It’s a pretty common story: Today, more than 11 percent of kids in the U.S. are diagnosed with ADHD, according to the Centers for Disease Control and Prevention. That’s up from 3 percent in 1997. For boys, it’s closer to 16 percent. Physicians in the U.S. wrote 48.4 million prescriptions in 2011, a jump of nearly 40 percent in four years. Historically, ADHD rates in the U.S. have been far higher than in Europe, where, until recently, diagnoses hovered around 1 or 2 percent. But pharmaceutical companies are now aggressively marketing their ADHD products abroad. Between 1998 and 2008, ADHD drug prescriptions in Germany jumped 500 percent—a leap researchers attribute in part to big pharma lobbyists.

What’s behind this rash of apparent cases of ADHD in American kids? Experts point to a host of factors. Pharmaceutical firms hard-selling doctors—a phenomenon [journalists](#) have [extensively documented](#)—is one. More pernicious are the cultural shifts, educational policies, and economic and social pressures on parents, which are, in a variety of ways, robbing children of unstructured play and physical activity. The upshot: We’re subduing our kids—taking much of the childishness out of growing up—to the point that they are becoming impulsive, distracted, and unruly. What used to be called acting like a child is often now diagnosed as a medical condition requiring treatment and referral to a health care system that, psychiatrists and psychologists say, rewards medication over other forms of treatment. Together, these factors may be encouraging what amounts to a giant, uncontrolled experiment with the effects of a class of amphetamines known as psychostimulants on the developing brains of our children.

Psychostimulants ramp up production of the neurotransmitters dopamine and norepinephrine. An abundance of these molecules make kids (and adults) feel calm, focused, alert, and able to tame obstreperous impulses by tempering the brain’s pleasure and reward circuitry in the prefrontal cortex. In so doing, the drugs—Ritalin, Adderall, Concerta, and Daytrana are among the popular brands that have become household names—perform superbly at alleviating typical ADHD symptoms, which include inattentiveness, hyperactivity, and impulsivity.

There’s no doubt that kids who take these drugs fidget less and focus longer. “The medications seem to



reduce the disruptiveness of a child very, very effectively,” said Laurence Greenhill, a professor of clinical child and adolescent psychiatry at Columbia University, where he evaluates the safety and efficacy of ADHD medications. “But there is nothing that is changed about you as a student, other than you are not jumping all over the room.” Put another way, psychostimulants don’t cure ADHD, much as Nyquil won’t cure a cold. “If you want to build skills,” said Stephen Hinshaw, a professor of psychology at the University of California, Berkeley, “medication is not going to do that.”

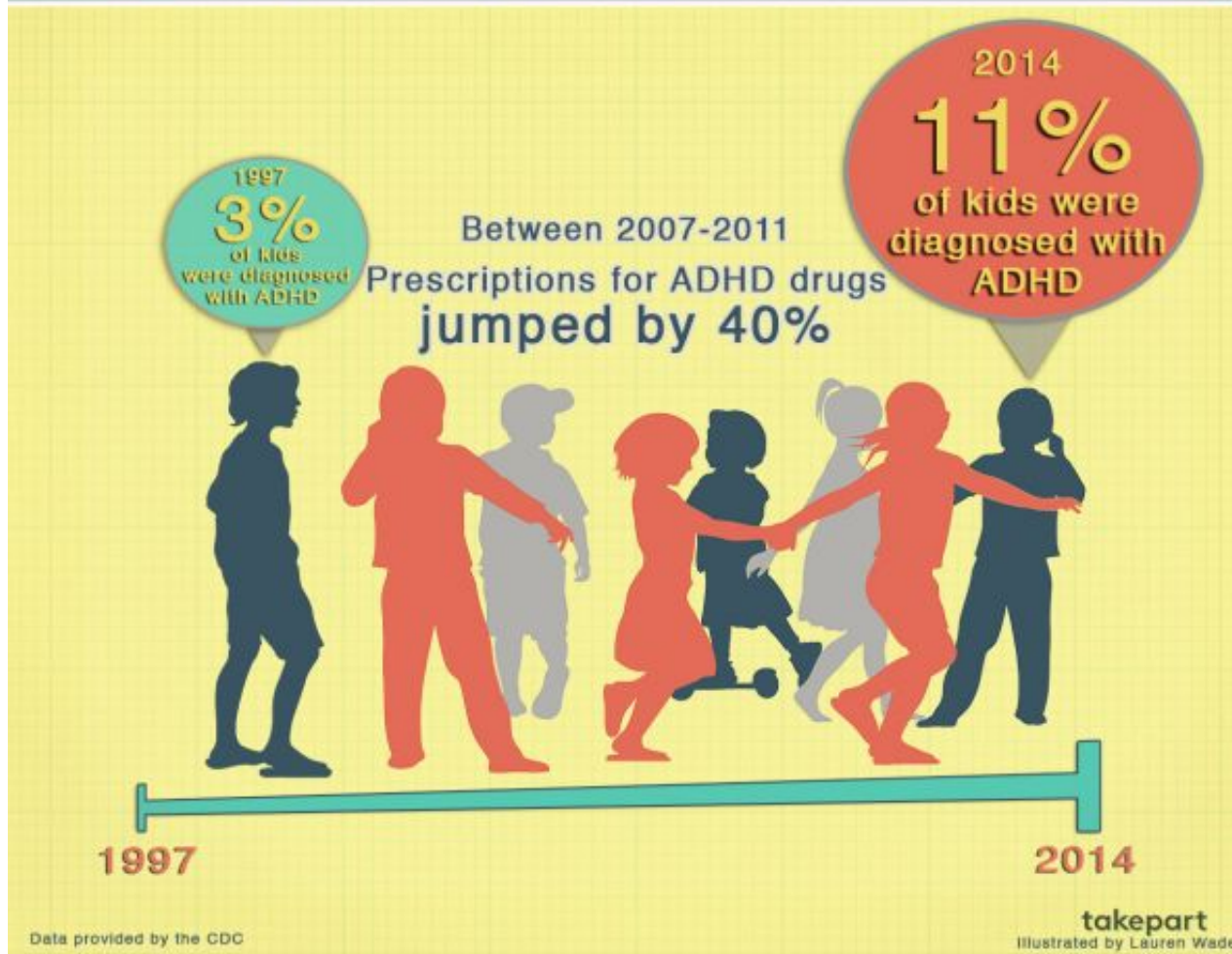
As kids grow through toddlerhood, their brains forge and prune billions of neural connections. How might bathing immature synapses in chemical compounds alter or impede the normal processes by which a brain wires itself? Doctors couldn’t answer that question for Kate and Jeff because scientists can’t slice apart kids’ noggins to determine if ADHD drugs are disturbing the brain’s basic architecture, or neurophysiology.

Put simply, nobody knows what these drugs do to a kid’s brain. That’s not likely to change soon, because to find out would take decades, requiring a randomized, double-blind study—the gold standard for gathering this type of long-term data. “You’d have to get a thousand kids with ADHD and then randomly assign 500 of them to get medication, and put the other 500 on a placebo,” explained Hinshaw, whose book, *The ADHD Explosion: Myths, Medication, Money, and Today’s Push for Performance*, was published last year (cowritten with Richard M. Scheffler). “Ethically, that’s just not something you can do.”

Emma was too young, at age four, to receive a sure diagnosis of ADHD, according to the American Psychiatric Association’s standards at the time. Her pediatrician suggested occupational therapy, which Emma did. But a few years later, the doctor referred Emma to a specialist—a developmental pediatrician—for a firm diagnosis. Kate was taken aback when she suggested Ritalin, especially since Emma had seen positive results from the occupational therapy. “She only met our daughter twice,” Kate recalled. “[Emma’s] occupational therapist, who she saw on a weekly basis for four years, told us medication was ridiculous.”

Kate “had a bad feeling” about giving her daughter Ritalin after reading reports questioning the drug’s safety: “I hated to make a decision for her to do something that would affect her developing brain.” She and Jeff had enlisted Emma in an increasingly popular ADHD treatment known as play therapy. Every week for the past four years, Emma, now eight, has been partaking in one-hour sessions that entail exactly what you might think they do: play. She dallies and romps in a souped-up tumbling gym while an occupational therapist gently guides her actions.

## ADHD: Expanding Diagnosis for U.S. Kids



Psychologists don't always agree on what precisely play therapy should look like, so techniques vary widely. One approach involves one-on-one time between a therapist and a child, in a room full of toys. More often psychologists coach parents and teachers on ways to ensure the ADHD child gets ample physical exercise. But the goal is always the same: engage the prefrontal cortex—a part of the brain that's integral to master-planning skills, problem solving, self-control, and impulsivity—through unstructured and so-called rough-and-tumble play.

Reduced time for recess and creative curricula; budget cuts leading to larger class sizes; overworked, overstressed parents; and the misguided drive to make high achievers out of kindergartners are all contributing to a diminution in the amount of time kids spend just goofing off. Kathy Hirsh-Pasek, a professor of psychology at Temple University and director of the Temple Infant and Child Laboratory, has researched and written extensively on the importance of play in child development—and the perils of restricting it too much. To foster growth in kids so they become healthy, happy adults, she said, play “is the magic potion. Monkeys play, goats play, dogs play, even fish play. The more we disrupt that natural interaction, the more we're experimenting with our kids.”

Emma's mom has become a believer. “We've seen so much success with the physical activity, it's blown



me away,” said Kate. “I was expecting we’d just get her to baseline normal. But she exceeded it. She’s been on honor roll twice—and I thought the ADHD was going to be an impediment to that.”

Highly educated, high-achieving American parents want their children to grow up to be either Steve Jobs or Misty Copeland—creative, inspired individualists. Our economy needs more creative minds—outside-the-box thinkers rather than automatons programmed for factory work. It’s all the more ironic then that we’re drugging one in six boys so he acts like his obedient peers.

### **Are We Hardwired for Play?**

Novel techniques for observing neurons firing and wiring in a human brain remain too new to generate a reliable snapshot of it. It’s still possible, however, to assess the size of a kid’s brain—and its component parts—to determine how it develops over time. Using imaging devices such as MRI and PET scans, several research teams have concluded that some children diagnosed with ADHD have brains whose prefrontal cortices measure up to 10 percent smaller by volume than average.

But in looking at the overall population, these size differences appear in just 4 percent of children—proportionally far less than the 11 percent of kids diagnosed with ADHD. Why the discrepancy?



(Photo: Ambre Haller/Getty Images)

Scientists don't dispute that ADHD is a legitimate condition, often hereditary, with genetic and physiological underpinnings. What they dispute is the percentage of children who actually have it.

Among many pediatricians, developmental psychologists, and neuroscientists there is an increasing suspicion that most cases of ADHD are just kids being kids: curious, restless, and impulsive. Curbing these natural instincts—the innate need to engage in rough-and-tumble play, an activity well documented in virtually every juvenile mammal—results in behavior that strongly resembles ADHD. Jaak Panksepp, a professor of integrative physiology and neuroscience at Washington State University, insisted that the rise in the rate of ADHD diagnosis “may reflect, in part, a cultural illness rather than any biological disorder.”

Hirsh-Pasek agreed. “We’re breeding lack of attention,” she said.

Not every child kept from playing enough develops ADHD. “There is a gene-environment interplay,” said Hinshaw. “It may be that some kids are born more susceptible to those environmental influences.” Even so, ever more evidence indicates that play deprivation may stunt prefrontal cortex development—a phenomenon Panksepp has documented in the brains of rats, which must be euthanized to observe changes to neurophysiology. So while only 4 percent of kids are believed to be born with the disorder, others can acquire it (or ADHD-like behaviors) if they’re forced to sit still too much.

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Emma’s success story comes as no surprise to Panksepp. “The world is full of those anecdotes,” he said, noting wryly that “the plural of anecdotes is data.” Panksepp’s research on affective neuroscience—a field he has been credited with creating—explores the relationship between neurons and emotions. Panksepp pioneered neural mapping and has demonstrated that certain animals possess a form of self-awareness and even feelings.

He isn’t the only scientist who has looked at the important role of play in the growth and development of humans and other mammals, or the dangers of restricting it. Many, including Alison Gopnik, a professor of psychology at the University of California, Berkeley; Kenneth Ginsburg, a physician and professor of pediatrics at the University of Pennsylvania's Perelman School of Medicine; and Anthony Pellegrini, a professor of educational psychology at the University of Minnesota, Twin Cities, have published studies in top journals, such as *Cognition*, *Pediatrics*, and *Nature*.



(Photo: Peter Lourenco/Getty Images)

But Panksepp may have been the first to reckon that play is essential for normal brain development in all mammals, including humans. By the early 1980s, Panksepp had drafted neural maps for maternal instincts, seeking drives, fear, rage, lust, and panic. “Then I began to wonder, ‘Is there another basic emotional system?’” he recalled. So for the next 20 years, he practically lived in his lab (he was at Bowling Green State University in Ohio before going to Washington State) meticulously observing rat pups romping and wrestling. Some were permitted to play unfettered; others were confined to solitude.

During the experiments, Panksepp euthanized some rats from each group and examined their brains with powerful digital imaging scanners. It turned out that the more he prevented rats from playing, the fewer changes he saw in their brains. Restricting play in rats had visibly curbed neural growth. When he allowed play-deprived rats to mature into adults, they transformed into the rodent equivalents of sociopaths.

That led Panksepp to theorize that if play is critical for rats to develop normally, maybe it functions similarly for children. Rat brains are not human brains, certainly, and many phenomena and chemical compounds observed or tested in rats do not manifest or have the same effect when applied to people. But many of them do—enough that science continues to use the animals as a proxy, including when testing medications for depression and anxiety that are now widely prescribed.

“Play is like hunger—the longer you’ve been without play, the more you need play,” Panksepp said. Starving kids of play, Panksepp said, only makes them crave it more—a craving doctors, parents,

and schools mistakenly ascribe to ADHD. Medicating doesn't satiate their appetite for play; it merely suppresses it.

In 2003, Panksepp hoped to surmise whether play could make hyperactive rats into kinder and gentler beings. To simulate ADHD, Panksepp made tiny lesions in their frontal cortex using a long needle. When the rats healed, they exhibited ADHD-like behavior—restlessness with a ravenous appetite for play. He divided the critters into two groups, with one given ample time to frolic. Then he logged their movements.

The results were clear: The rats that had ample playtime were nearly twice as likely to just chill out, as compared with their shackled brethren, which darted fitfully around. He repeated the experiment, this time with rats whose brains hadn't been altered. He exposed the rats to loud noises intended to startle them. Here, too, the rats that played were harder to frighten and scampered less. Put simply, no play produced high-strung varmints.

In 2010, Panksepp devised another study to ascertain how animals are hardwired for play. Is it in our DNA? His target was a gene called insulin-like growth factor 1, or IGF-1, which influences neuron growth, production, and resilience. Panksepp set some rats loose in a rodent Romper Room, inhibiting the activity of a control group.

After his subjects were euthanized, their brains were analyzed with a DNA microarray, a tool that lets researchers rapidly determine which genes switch on when exposed to certain stimuli—and whether they do so in concert with other genes. The results shocked Panksepp: “During a one-hour period, 400 [IGF-1] genes were shifted in the cortex.” That hour occurred while the rats were playing. “It means that play is activating one of the most important growth factors in the brain. That's big-time.” Extrapolating the results to children, he said that without play, “your kid is missing 400 genes not being activated on a regular basis.”

### **Are Schools Starving Kids of Play?**

When British pediatrician George Still first described ADHD in 1901, “the actual incidence of the disorder...was about a half of 1 percent,” noted Panksepp. Ask him why the 20-fold rise since, and you'll get an impassioned sermon. Panksepp imparts some blame on an entrenched pharmaceutical industry, with its “enormous money pipeline” that pays doctors (directly and indirectly, through speaking gigs, golf junkets, and other gainful arrangements) for promoting its drugs. More so, his theories on the ADHD surge are boiled down in a 2007 essay Panksepp wrote for the *Journal of the Canadian Academy of Child and Adolescent Psychiatry*: “Our current ‘no child left behind’...policy, focusing on reading, writing and arithmetic, at the expense of physical education and the arts, continues to steal natural play functions away from our children, to be replaced, all too often, with regimented activities and sometimes psychostimulant medications that reduce play urges.”

“Expectations are developmentally inappropriate for kids in our culture today,” contended Dee Ray, a



professor of counseling and higher education at the University of North Texas in Denton, where she directs the Child and Family Resource Clinic. She's also a registered play therapist. "There is too much structure, and there are things [kids] are not developmentally designed to do yet but being asked to do." She pointed to [increased academic instruction in kindergarten](#) and less recess in the later grades as examples.

Anita Bundy, a professor of occupational therapy at the University of Sydney, said, "We are structuring children so much—dance lessons, music lessons, soccer lessons—they never have to think, 'How do I entertain myself and use what's around me to have fun?' It's making a bunch of brain-dead kids."

According to Bundy, the relentless pressure on today's children to excel is spawning an anxiety epidemic. The two predominant symptoms of anxiety? "Inattention and hyperactivity," she said.

Several factors may be behind these developments—and the soaring rates of ADHD. Our schools' single-minded emphasis on standardized testing since the No Child Left Behind Act took effect in 2002, paired with larger classrooms, "encourage teachers to develop punitive methods to force children to sit still and listen," said Ray. "[ADHD] has been highly correlated with reduction in physical education and, worst of all, reduction of recess time." That leads to "boredom and distraction for children, which is often manifested in symptoms associated with ADHD." In the first five years of No Child Left Behind, almost half of U.S. school districts took significant time away from recess and creative curricula in favor of the math and reading that's subject to standardized tests, [according to](#) the Center on Education Policy. Yet in 2010 the CDC found that physical activity in school improves academic performance, including on standardized tests; there was "no evidence" that recess was negatively associated with cognitive skills or academics [\[pdf\]](#).

We are structuring children so much, they never have to think, 'How do I entertain myself?' It's making a bunch of brain-dead kids.

**Anita Bundy, occupational therapy professor, University of Sydney**

Indeed, how we school our children might be cultivating ADHD, "which didn't exist before we had a compulsory education," Berkeley psychology professor Hinshaw pointed out. "Then, 150 years ago, society said every kid needs to sit still in a classroom and learn. Not surprisingly, literature on something called hyperactivity emerged around the same time."

In a forthcoming study, Hinshaw examined the correlation between standardized testing and ADHD diagnoses. Prior to 2001, about 30 states linked a school's budget allocation with its ability to raise test scores. At the time, these same 30 states had the country's highest rates of ADHD. With the passage of No Child Left Behind, the remaining 20 states became similarly accountable for test scores. "We found that in these 20 states, the poorest kids saw their rates of ADHD diagnoses go up by 60 percent in five years," Hinshaw said.

His explanation? “Districts are incentivized to diagnose these poorer kids because they are the lowest test scorers” in aggregate, he said. Low scores drag down a district’s average, putting resources at risk, because No Child Left Behind withholds funding from low-performing schools. Many other experts say the same thing. Even more nefarious, Hinshaw pointed out, is that the test scores of pupils in special education programs aren’t counted in the district’s average. How do you justify placing a kid in special ed? Diagnose her with ADHD. Hinshaw asked, “So what’s the best way to raise your district’s test scores” under No Child Left Behind? “Take out the lowest scorers. This was a direct incentive to overdiagnose ADHD in order to keep getting your funding.”

No doubt, it would be too much to lay the expansion of ADHD diagnosis entirely at the door of No Child Left Behind, and those who study school performance by and large agree that assessments of students and accountability of schools are necessary for getting the most for our education dollar. But Hinshaw feels strongly that “Today, the rates [of ADHD] are skyrocketing” in part because “there is more a press for conformity in schools rather than individual differences.”

Hirsh-Pasek believes, similarly, that classifying kids as disabled too often stems from the school’s needs rather than the child’s. “We know that many kids who are sent to special ed classes don’t have any special ed problems—that is, biologically,” she said. “They are sent there because they are disruptive.”

### **Is the Health Care System Fueling an Epidemic?**

Sorting out which children have ADHD and which are just rambunctious kids—who, when freed from the classroom environment, act perfectly normal—is tricky. “In my experience, most diagnoses of ADHD were originally suggested by a teacher—a person who has no background to make such a suggestion,” Ray said. (Emma’s first-grade teacher backed the developmental pediatrician’s suggestion that Emma be prescribed Ritalin.)

For the most part, accurate diagnoses come down to resources, or the lack thereof. “There are only 7,000 child and adolescent psychiatrists in the U.S. In some states there are only one or two in the entire state,” notes Eugene Beresin, a professor of psychiatry at Harvard Medical School. “[But] there are 14 to 20 million kids with psychiatric illness.”

With so few child psychiatrists to manage ADHD, diagnosis typically falls on pediatricians, whose first (and only) course of action often is to prescribe medication—in many cases is the only reimbursable treatment. Most health insurance companies aren’t required to reimburse for therapies like Emma’s, or for equivalent time spent on psychotherapy as they are for medication visits, or for other nondrug solutions that might help with ADHD. In many cases, the only reimbursable treatment is medication. (Obamacare and rules finalized only recently under the Mental Health Parity and Addiction Equity Act of 2008 are changing this state of affairs, to a degree.) Behavioral therapy is often excluded, said Hinshaw, “because it’s more expensive and takes more time, and M.D.s aren’t trained to do it—they’re trained in prescribing medications.”



Beresin finds this extremely frustrating. “Why aren't insurance companies paying for mental health services by doctors who understand what it takes to treat kids?” he said. “If you told someone with diabetes or hypertension the insurance company isn't going to pay for the evidence-based most-effective treatment, there'd be a revolution in the streets.”

Panksepp has chronicled his experiments in more than 330 articles and essays. He has written two acclaimed books, received 18 awards and honors, given keynote speeches at dozens of leading science conferences, and been interviewed by *People* and *Discover* magazines. Money hasn't followed; Panksepp has endured a near constant struggle to garner funding. He gets a modest R&D stipend from his university, but for major research endeavors, he needs underwriters. The National Institutes of Health has repeatedly turned down his grant proposals. “For some reason, our work on ADHD is seen to be radical,” said Panksepp.

That may be changing. New research into the biological and evolutionary origins of ADHD is bolstering Panksepp's findings while encouraging other scientists to investigate the association of rough-and-tumble play and play-type therapy with higher levels of focus and concentration in elementary school-age children diagnosed with ADHD. Dan Eisenberg, a professor of anthropology at the University of Washington, is trying to determine how a recently discovered gene linked to dopamine receptors in the brain, named DRD4-7R, could be making its carriers—about 20 percent of us—less fit for modern society even though it has played an important role in evolution.

Eisenberg's study of DRD4-7R in a tribe of nomadic herders in Kenya called the Ariaal, about half of whose members recently quit their old ways and took up an agrarian existence, suggests that ADHD-like behavior benefits hunter-gatherers. In the still-nomadic group Eisenberg studied, the men with DRD4-7R were healthier and overall nutritionally better off than those without it. Even more telling was that the gene had the reverse effect on the Ariaal who became farmers: Those with the so-called restless gene were more likely to be malnourished. ADHD-like behavior may therefore benefit hunter-gatherers, who require a sort of hyperawareness to survive, while farmers who can't focus might not have the patience or persistence it takes to grow crops.

Hinshaw told me that early humans with DRD4-7R would have been at an advantage. That holds true today: A kid with DRD4-7R might simply thrive better in a different environment. ADHD, maintained Panksepp, is nothing more than “a normal variant of human diversity.”

Most researchers will say that ADHD drugs are no better at curing ADHD than cold medicine is at killing cold viruses. Even so, there's emerging research suggesting that ADHD medication might rewire the prefrontal cortex, albeit subtly, producing physiological changes and not just symptomatic ones. This work is still being evaluated and remains highly controversial, Hinshaw said.

Ritalin has been prescribed for children since the late 1950s, and its defenders will insist there's been no explosion of psychopaths in the years those kids have grown up. Indeed, medical research has found

[more](#) mental health problems the drug can treat. Nonetheless, since psychostimulants came into use, rates of clinical depression have risen significantly in the U.S.; the condition is now the leading disability among children and adolescents, and nobody really knows why. It's well established that messing with dopamine levels can impair a brain's ability to regulate moods.

Hirsh-Pasek thinks more than just educational policy or teaching styles are to blame, pointing out that kids are, on average, in class just 20 percent of their waking hours. "We need to ask what's going on outside the classroom," she said.

Panksepp faults a culture that's increasingly unwilling or unable to provide kids with sufficient play, preferring a Band-Aid solution. "Put a kid on Ritalin, and he's no longer socially marginalized," he said. Bundy added, "[Drugs] are an easy fix. Part of it is that parents are so busy, so you give them a pill to make their kids better, and they don't have to think about it. [Parents] want stuff to happen right now. They don't realize that there isn't a lot of research on the long-term effects of ADHD medications."

When Kate and Jeff opted for play therapy over medication for Emma, they chose a protracted and costly path that demanded a commitment many parents would shudder at. "It was overwhelming at the beginning," said Kate. "We did one hour once a week, and they gave us homework to do daily." That included rearranging their living room to make space for an indoor trampoline and a foam crash pad for Emma to burn off excess energy. The annual cost of play therapy is greater than Emma's private-school tuition. Perhaps most of all, play therapy requires patience and resolve. "The results aren't immediate," said Kate. "It's not like taking a pill. It's like trying to lose weight, where you're working and working, and some weeks you might even gain a pound. Sometimes you feel like it's not doing anything. But now that we can look back on the long game, we've seen that it has. All the extra effort was worth it."

**CORRECTION [Jan. 28, 2015]:** A previously published version of this article stated that the American Psychological Association's *Diagnostic and Statistical Manual of Mental Health Disorders, Fifth Edition*, raised the age at which most ADHD cases can be diagnosed from six to 12. This is incorrect. The Manual states that if a child age 12 or older is to be diagnosed, "several symptoms" of ADHD must have been present before age 12. Previously, the age at which symptoms had to have been present was seven.