White Paper

The Use of Food as a Reward in Classrooms: The Disadvantages and the Alternatives

INTRODUCTION

Kentucky faces many daunting health problems. We are at the top of all the wrong lists. Our state ranks 10th in the nation for adult obesity, 9th for diabetes rates, 7th for sedentary lifestyles and childhood obesity, 2nd for smoking rates and heart disease and number one in cancer deaths. Kentucky dental health ranks as one of the poorest in the nation. Teaching young people good health habits is an important part of the effort to improve this bleak picture, but too often they are getting the wrong message in what ought to be the right place—school.

The wrong message is delivered by using food—usually candy or other unhealthy food—as a reward for good behavior or academic performance at school. This practice, which is condemned by experts, can undermine efforts to promote healthy habits, and put students at risk for obesity, Type 2 diabetes, and other serious health problems. Yet, using food as a reward is common practice in the public schools of Kentucky.

Though consuming non-nutritive food is linked to a host of health problems, the deck is stacked against healthy foods like fruits and vegetables. The game is rigged because our tax dollars are used to subsidize some of the ingredients in highly processed, non-nutritive foods, and approximately $2 billion is spent annually on marketing junk food to children (Kovacic, 2008). Because junk food is engineered to take advantage of our predisposition to crave fat and sugar, foods laden with these ingredients may even be addictive (Avena, Rada, Hoebel, 2008).

In this white paper, we discuss the role of schools in promoting healthy eating and present evidence supporting the positive relationship between properly nourished children and classroom performance. We also share the research on the use of food as rewards and alternative effective classroom management techniques. Schools that use innovative instructional strategies to improve student health may also improve academic achievement, closing equity gaps in both health and academics.

THE ROLE OF SCHOOLS IN MODELING HEALTHY HABITS

Being thoughtful about what students consume throughout the school day makes sense. Healthy eating enhances learning by increasing concentration and good behavior and decreasing absenteeism. Schools are logical places to reinforce healthy habits because they are the institutions that set standards for youth on many topics. Large numbers of youth are in schools for extended periods of time, making it an ideal location to reinforce positive lifestyle habits population-wide.
The Centers for Disease Control and Prevention (CDC) lists a number of reasons it is important for schools to promote healthy eating:

- Healthy eating in childhood and adolescence is important for proper growth and development and can prevent health problems such as obesity, dental cavities, iron deficiency, and osteoporosis (Dietary Guidelines Advisory Committee, 2010).

- Healthy eating is associated with reduced risk for many diseases, including several of the leading causes of death: heart disease, cancer, stroke, and diabetes (Dietary Guidelines Advisory Committee, 2010).

- The Dietary Guidelines for Americans recommend a diet rich in fruits and vegetables, whole grains, and fat-free and low-fat dairy products for persons aged two years and older. The guidelines also recommend that children, adolescents, and adults limit intake of solid fats (major sources of saturated and trans fatty acids), cholesterol, sodium, added sugars, and refined grains (USDA, 2010). Unfortunately, most young people are not following the recommendations set forth in the Dietary Guidelines for Americans (USDA et al., 2010).

HEALTHIER STUDENTS ARE BETTER LEARNERS

Studies have demonstrated a longitudinal effect between children’s physical health (measured by physical fitness and Body Mass Index [BMI]) and subsequent achievement. An increase in children’s BMI from normal to overweight or obese status results in decreased test scores (Datar & Sturm, 2006) while children who are more physically fit have higher academic achievement (London & Castrechini, 2011).

The Taiwan Nutrition and Healthy Survey of 2,200 elementary school children found that the more unhealthful eating habits a child had, the greater the risk for overall poor school performance. Students with increased overall diet quality scores were significantly less likely to fail the provincial standardized literary assessment (Fu et al, 2007). A Nova Scotia study of 5,200 5th graders found that children in the top and middle thirds of diet scores were 41 percent and 26 percent less likely, respectively, to fail compared to children in the bottom third (Veugelers & Fitzgerald, 2005).
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RESEARCH ON USING FOOD AS A REWARD

“If you finish your math homework, you can have some candy.” That, according to national organizations including the Mayo Clinic, American Academy of Child and Adolescent Psychiatry, and American Academy of Pediatrics (see table on page 4), is a counterproductive strategy. These prestigious groups are officially opposed to using food to motivate children—yet the use of food as a reward in our classrooms persists. Although there may be short-term gains in behavior change, the research is clear that using food as a reward comes with serious long-term consequences for children and society as a whole. Further, as Marlene Schwartz, Co-Director of the Yale Center for Eating and Weight Disorders, describes the problem, rewarding children with non-nutritive foods in school “undermines our efforts to teach them about good nutrition. . . it’s like teaching children a lesson on the importance of not smoking, and then handing out ashtrays and lighters to the kids who did the best job listening” (cited in Puhl and Schwartz, 2003).

Educators are missing the link between rewarding children in the classroom with food and events in the larger world around them. Obesity has increased over 30% in the past 30 years. Whereas Type II diabetes used to be referred to as “adult onset diabetes,” children as young as six years of age are now being diagnosed with this condition (Ikeda, 2004). When we provide children with candy or other non-nutritive foods as rewards, we are fostering their desire for sweet and unhealthy foods (Baxter, 1997). Research demonstrates that foods used as rewards become more desirable to children than if they had not been used as rewards (Ikeda, 2004; Fisher & Birch, 1999 a,b). As one researcher put it, “When this ‘reward’ is freely available, children are likely to overeat it,” contributing to the obesity epidemic (Ikeda, 2004). Moreover, several studies have shown that using food to reward success or good behavior results in an increased risk of binge eating and other types of eating disorders (MacBrayer, Smith, McCarthy, Demos & Simmons, 2011; Puhl & Schwartz, 2003). Food rewards interfere with children's natural ability to regulate their eating. The Institute of Medicine's Nutrition Standards for Foods in Schools determined that using food as a reward in schools is inappropriate because it creates an emotional connection between foods and accomplishments (Institute of Medicine, 2007).

Nationwide, more than 80% of food sold at schools was found to be high in sugar and fat (Kubik, Lytle, & Story, 2005). Students who attend schools where vending machines, school stores, fundraising, and rewards are pervasive have higher caloric intakes and higher Body Mass Indices (BMI) (Fox, Dodd, Wilson, & Gleason, 2009). In a study by Kubik and colleagues, a student's BMI increased ten percent for every additional unhealthy food practice allowed in a school setting (Kubik, Lytle, & Story, 2005). In school districts where policies prohibit the use of food as a reward, teachers offer alternative, non-food rewards (Turner, Chriqui, & Chaloupka, 2012). When the school curriculum includes nutrition education and food rewards are prohibited, children's eating patterns improve (Lytle et al., 2004).

In addition, between-meal snacks are linked to increased dental caries (Marshall et. al, 2005). Food rewards are commonly distributed throughout the day—candy for bringing homework in, a cookie for staying on task, more candy for a high math score. Children's teeth are exposed to more cariogenic food more often when teachers use food rewards regularly. Thirty four percent of Kentucky third graders have untreated tooth decay which can set them up for a lifetime of related health problems (Centers for Disease Control, 2002).

An increasing number of school districts are enacting policies that restrict the use of food as a reward. In 2006, the CDC reported that 36% of schools prohibited or discouraged teachers from using food as a reward in classrooms—up from 24%
in 2000 (O’Toole, Anderson, Miller & Guthrie, 2006; Wechsler, Brener, Kuester, & Miller, 2001). A 2002 survey of 339 Kentucky schools found that 81% used food as a reward for behavior, attendance, or academic achievement, and 90% used non-food rewards. (http://www.cdc.gov/healthyyouth/mih/pdf/approach6.pdf).

**WHAT THE EXPERTS SAY**

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<tr>
<th>ORGANIZATION</th>
<th>STANCE ON FOOD AS A REWARD</th>
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<tr>
<td>American Academy of Pediatrics</td>
<td>Food should be used as nourishment, not as a reward or punishment. In the long run, food rewards or bribes usually create more problems than they solve.</td>
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<tr>
<td>American Academy of Family Physicians</td>
<td>Food should not be used for non-nutritive purposes such as comfort or reward. Do not provide food for comfort or as a reward.</td>
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<tr>
<td>Academy of Nutrition and Dietetics</td>
<td>Do not use food as a reward. When children are rewarded with sweets or snack food, they may decide that these foods are better or more valuable than healthier foods.</td>
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<tr>
<td>American Academy of Child and Adolescent Psychiatry</td>
<td>Do not use food as a reward.</td>
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<tr>
<td>American Psychological Association</td>
<td>Avoid using food as a reward for good behavior. Making unhealthy food a reward for good deeds promotes the idea that healthy food isn’t as appealing as junk food or something to look forward to.</td>
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<tr>
<td>Mayo Clinic</td>
<td>As a general rule, don’t use food as a reward or punishment.</td>
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<td>Yale Medical Group</td>
<td>Using food as a reward or as a punishment can undermine the healthy eating habits that you’re trying to teach your children. Giving sweets, chips, or soda as a reward often leads to children’s overeating foods that are high in sugar, fat, and empty calories. Worse, it interferes with kids’ natural ability to regulate their eating, and it encourages them to eat when they’re not hungry to reward themselves.</td>
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**STRATEGIES FOR CLASSROOM MANAGEMENT WITHOUT USING FOOD REWARDS**

There are a number of strategies for effective classroom management in the literature and none of them advocate using food as a reward for students. Rather, they rely on more comprehensive approaches that cultivate healthy, sustainable classroom environments. This White Paper will highlight three such approaches. They are:

1. Systematically identifying problems, what prompts them, and what specifically addresses them.

2. Fostering healthy student/teacher relationships to set a tone for the classroom that result in positive outcomes.

3. Using a multi-tiered approach that employs varying strategies to address different levels of behavior problems.
A Systematic Approach to Sound Classroom Management

As opposed to using food to manipulate children's behavior, sound classroom management techniques take into account the larger context of the classroom, school and home environments. Epstein et al. (2008) suggest a systematic approach for reducing behavior problems in elementary school classrooms. The first step in addressing a behavior problem is to identify the behavior and the conditions that prompt and reinforce it. The classroom learning environment can then be modified to decrease the undesired behavior. For example, if students become more disruptive when the classroom is loud, the teacher can establish routine ways to quickly alert students to reduce noise, such as call and response clapping sequences or tuning the lights off. If students tend to act out more when they have been sitting for long periods, physical activity can be incorporated into the learning environment using tools such as Go Noodle and Take 10. Research has shown that physical activity breaks reduce disruptive behaviors, helping students stay on-task and ready to learn (Barros, Silver, & Stein, 2009; Bogden & Vega-Matos, 2000).

Epstein and colleagues also suggest seeking guidance and support from professional colleagues and students' families. Other perspectives can shed light on problem areas and suggest new strategies. If the problem behaviors are widespread and ongoing, school-wide strategies may be warranted. For example, if cell phone use is consistently distracting students, adopting a school-wide cell phone policy may nip problems in the bud. Though such changes can be helpful, research has shown that teachers' actions in their classrooms have twice as much impact on student achievement as school policies regarding curriculum, assessment, staff collegiality, and community involvement (Marzano, 2003). Thus, it is imperative that teachers learn effective classroom management strategies that do not include using food as a reward for good behavior or achievement.

Effective Student/Teacher Relationships

Wubbels and colleagues (1993) identify “appropriate dominance” as an important characteristic of effective teacher-student relationships and well-functioning classroom environments. Though “dominance” may have a negative connotation, they define dominance as “the teacher's ability to provide clear purpose and strong guidance regarding both academics and student behavior.” Studies show that when asked about their preferences, students typically prefer appropriate dominance to more permissive types of teacher behavior. In interviews with more than 700 students in grades four through seven, the students stated a clear preference for strong teacher guidance and control (Chiu & Tulley, 1997). Teachers who practice appropriate dominance communicate in an assertive manner and set clear behavior expectations and learning goals.

Excerpted below are strategies suggested by Stage and Quiroz (1997) to build effective student/teacher relationships:

- Use a wide variety of verbal and physical reactions to students’ misbehavior, such as moving closer to offending students and using a physical cue, such as a finger to the lips, to point out inappropriate behavior.
- Cue the class about expected behaviors through prearranged signals, such as raising a hand, to indicate that all students should take their seats.
- Provide tangible recognition of appropriate behavior—such as tokens or chits, for example.
- Employ group contingency policies that hold the entire group responsible for behavioral expectations.

http://www.ascd.org/publications/educational-leadership/sept03/vol61/num01/The-Key-to-Classroom-Management.aspx
A Multi-Tiered Approach
A multi-tiered approach is another strategy for developing positive classroom behaviors, preventing behavior problems and dealing with disruptive behavior. This method proposes varying the intervention based on the level of support particular students need. For example, 80 percent of students may respond to the teacher setting clear expectations, while 15% may need weekly check-ins and 5% may need to touch base daily. The steps in such an approach are listed below, excerpted from the website of the American Psychological Association.

At the Primary or Universal Prevention System Level (interventions at this level are applied to all students in the school; approximately 80 percent of students may respond to this level of intervention):
- Create classroom lessons and materials that interest students.
- Ensure that there is a match between student’s skills and classroom instructional level.
- Develop home-school partnerships that help meet student needs and foster better learning and behavior.
- Teach students the skills they need to meet classroom expectations (self-regulatory skills like time management and study skills like note taking).
- Develop a statement explaining the purpose for classroom management.
- Clarify expectations for student behavior.
- Establish procedures for teaching expected (positive) behaviors.
- Establish procedures for discouraging problem behaviors.
- Establish a system for monitoring student progress and keeping records.

At the Secondary or Selected Prevention System Level (after the Primary level of prevention is applied—approximately 10 percent to 20 percent of students will need this additional level of support):
- Institute self-management programs.
- Institute anger management programs.
- Institute conflict resolution programs.
- Institute mentoring programs.
- Institute daily check in and check out procedures.
- Institute specialized social skill instruction.
- Institute brief and less-intense functional assessment and support plans (interventions based on the functional analysis of behavior—i.e., an analysis of what seems to motivate the student to behave as he or she does).
- Establish family involvement in all programs.

At the Tertiary or Individual Prevention System Level (approximately 5 percent to 7 percent of students will need this level of support):
- Establish a problem-solving team that teachers and others can go to for help.
- Develop function-based interventions (interventions based on the functional analysis of behavior i.e. an analysis of what seems to motivate the student to behave as he or she does).
PREPARING STUDENTS AS CHANGE AGENTS FOR HEALTHY SCHOOL ENVIRONMENTS

Because food is so commonly used as a reward in K-12 settings, it is likely that student teachers and new teachers will encounter this practice as they begin working in schools. If they know the disadvantages of food rewards and have tools for effectively managing classrooms, they will be better equipped to avoid perpetuating a practice that is detrimental to the health and well-being of students. Change occurs more rapidly when people from a variety of backgrounds support the change. If new teachers join health advocates, parents and professional organizations in speaking out against manipulating children’s behavior with food, the change will likely be swifter and more effective. The role of colleges of education cannot be underestimated in bringing about this change.

Colleges that teach students not to use food as a reward in classrooms give their graduates an employment advantage. Those teachers will be better prepared for job interviews about classroom management.

CONCLUSION

Though in the past it was common for Kentucky public schools to have smoking areas for both teachers and students and for principals to paddle children for misbehavior, those practices have significantly decreased as we’ve come to understand more about physical and mental health and child development (UK College of Nursing, 2011; KY Youth Advocates, 2013). One in three Kentucky children are overweight or obese, giving Kentucky the 7th highest ranking in the nation. The current childhood obesity epidemic and its associated diseases, as well as dental health issues, means we can no longer support the practice of giving children unhealthy food throughout the school day to shape behavior. The time has come for Kentucky to set standards around the use of food as rewards and in doing so, create a healthier culture and a healthier commonwealth. By adopting more effective classroom management techniques, Kentucky schools will support enhanced learning and the economic benefits that come with it. Children learn what they live. If schools exemplify a culture of healthy habits, Kentucky children will come to see this as a way of life.
RESOURCES

There are many resources that provide helpful suggestions for alternatives to food rewards.

**Constructive Classroom Rewards: Promoting Good Behavior without Compromising Student Health**
Tweens Nutrition and Fitness Coalition

**Stress Busters for Teachers**
Tweens Nutrition and Fitness Coalition

**Alternatives to Using Food as a Reward**
Michigan State University Extension

**Constructive Classroom Rewards**
Center for Science and the Public Interest

**Go Noodle Physical Activity Brain Breaks for Classrooms**
www.gonoodle.com

**Take Ten Healthier Lifestyles 10 Minutes at a Time**
www.take10.net

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