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Courtesy of Team-Up for Youth, San Francisco Bay Area

A Review of Research on the Integration of Sports and Physical Activity into Out-of-School Time Programs

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Policy Studies Associates, Inc.

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A Review of Research

A large, consistent body of research attests to the value of high-quality out-of-school time (OST) programs in promoting positive youth development. These programs provide environments where young people can engage in academic enrichment, build meaningful relationships with responsible adults and peers, nurture new interests, and develop the social and life skills they will need to mature into well-informed, productive citizens. Now, program managers and funders are asking whether OST programs can also serve as key staging grounds in America's battle with youth obesity by promoting increased levels of physical activity and sports engagement among their young participants.

To begin the search for an answer to this question, Policy Studies Associates (PSA), with support from the After School Project of the Robert Wood Johnson Foundation, undertook this review of research on the intersection of (1) OST programming, (2) sports and physical activity programs for youth, and (3) the promotion of healthy physical, emotional, and intellectual development among children and youth, especially those growing up in poverty. It does so by exploring the following questions:

- ***What have we learned from youth-development research and OST programming about promoting healthy child development?***
- ***What factors and conditions influence youth participation in sports and physical activity?***
- ***What outcomes are associated with participation in sports and physical activity?***
- ***What are the characteristics of effective OST sports and physical activity programs?***
- ***What are the policy and practice implications of what we know now about this pressing issue?***

There is good reason for concern. More than 15 percent of the nation's children between the ages of 6 and 11 are overweight, up from just 4 percent in the 1970s. During this period, obesity among preschoolers and teens more than doubled (Davis, 2005). What's more, between 70 and 80 percent of overweight children and youth are destined to become obese adults (Action for Healthy Kids, 2004), with the medical consequences that obesity implies: cardiovascular disease, Type 2 diabetes, high blood pressure and cholesterol, bone problems, asthma, sleep disorders, depression, and anxiety.

Obesity also takes an enormous economic toll in terms of lost school days. Severely overweight children miss one day of school per month because of weight-related illnesses. This rate of absenteeism portends a loss of state aid of about $28 million a year in New York City, $9 million in Chicago, and $15 million in Los Angeles (Action for Healthy Kids, 2004).

Finally, because obese children and youth are likely to be physically inactive, they miss out on opportunities to develop other qualities commonly attributed to sports and physical activity. That sports build character is an American truism. Most people believe that sports and physical activity teach

desirable life skills, such as perseverance, fair play, teamwork, loyalty, leadership, respect for rules, and emotional control, to name a few.

In *Physical (In)Activity Among Low-Income Children and Youth: Problem, Prospect, and Challenge*, Halpern (2003, p. 2) examines the possibilities for using after-school sports and physical activity programs to arrest what he calls an "epidemic of inactivity" among youth. He states:

> ***. . . the problem has multiple, intertwined roots-in unfriendly and unhealthy physical environments; economic pressures on (and necessary priorities of) low-income families; the growing institutionalization of childhood; unbridled advertising; damaging messages from popular culture; rampant consumerism; the often unhealthy way in which American society "does" sports; and, not least, dysfunctional public policies in a wide range of spheres (e.g., support for working families, urban planning, environmental policy, organization of the school day, regulation of business, etc.). This multi-causality does not mean that discrete responses-such as promoting youth sports-are destined to be ineffectual. The most useful responses to complex problems are often focused.***

Despite recent breakthroughs in knowledge about the psychological and social bases for positive youth development and about application of these principles in OST programs, employing these approaches in programming that increases young people's physical activity is a relatively new focus for both research and policy.

What Have We Learned from Youth Development Research and OST Programming about Promoting Healthy Youth Development?

Policy interests in positive youth development and OST programming are responses to significant social and economic change in American life, as summarized here.

Lessons from Youth Development

Early policy and research foci on positive youth development aimed to reduce the burgeoning numbers of youth who were dropping out of school, using alcohol and drugs, and engaging in antisocial and delinquent behavior. This work fashioned itself after a deficit-reduction model. Youth development specialists designed and implemented interventions to correct supposed deficiencies that were causing youths' unwanted behavior. As research provided better information about the characteristics of

disadvantaged youth, specialists shifted their emphasis from short-term, deficiency-oriented programs to prevention of unwanted behaviors and support for development of youth resiliency. Both research and practice came to view young people as having assets and skills that could be nurtured, developed, and helped to flourish, given the right environmental supports and opportunities. This perspective focuses on what children need to promote their healthy development: good relationships with peers and caring adults, the chance to participate in activities in which they can learn to make healthy choices and practice leadership, and opportunities to develop skills that are engaging, challenging, and satisfying (Connell, Gambone, & Smith, 2001).

Lessons from OST Programming

New England SCORES, Courtesy of Boston Beyond - BYSI

While youth development specialists were focusing on disadvantaged populations, changes were taking place in American life generally. More parents went to work and spent more time at work, and more children and youth than ever before were being left to their own devices before and after school, on weekends, and during school vacations. Simultaneously, concerns about low student achievement led to policies calling for children to spend time in learning-oriented activities beyond the school day (U.S. Department of Education & U.S. Department of Justice, 1998).

OST programs emerged out of these concerns. Over the years, many of these programs have shown that they can indeed blunt the impact of potentially destructive conditions. For example, participation in after-school programs has been associated with decreases in juvenile crime and juvenile victimization and increases in children's sense of safety (Baltimore Police Department Office of Planning and Research, 1998; Fight Crime, Invest in Kids, 1999; Taggart, 1995; Warren, Brown, & Freudenberg, 1999).

Studies have reported higher school attendance (Huang, Gribbons, Kim, Lee, & Baker, 2000; Reisner, White, Russell, & Birmingham, 2004), lower dropout rates (Lattimore, Mihalic, Grotpeter, & Taggart, 1998), and fewer behavior problems in children attending OST programs (Fashola, 1998; Posner & Vandell, 1999). Improved grades and higher academic achievement also appear to be associated with OST programs that incorporate academic or enrichment components. As a result of participating in these programs, children have reported higher aspirations for their future, including their intention to complete high school (Fabiano, Pearson, & Williams, 2005; Reisner et al., 2004).

Many OST programs already use sports and recreation as the hook to recruit and retain youth in after-school academic activities (Le Menestrel, Bruno, & Christian, n.d.). Taking a more deliberate approach to the inclusion of sports and physical activity in OST programs can bring to bear the benefits of both OST programming and physical activity for what can readily become large numbers of children and youth.

Research Caveats

Research on young people's participation in sports and physical exercise has contributed to knowledge about making OST programs healthy, productive, and pleasant environments for children and youth. However, translating that research into guidance for effective sports and physical activity programming for all children presents certain problems.

Most research on youth sports and physical activity has focused on high school team sports.

These activities emphasize competition and winning, and they focus on older teens. As a result, they differ significantly from OST programs that aim to reach all children, including those who are not athletically inclined. By the time most youth reach high school, their sports and physical activity patterns are likely to be set. Also, as the research on youth physical activity shows, many children are not comfortable with competitive sports.

Self-reports of physical activity tend to be imprecise or even inaccurate.

While researchers use self-report questionnaires, direct observation, heart-rate monitors, motion sensors, and other methods to track youth physical activity, the most common research method remains self-reports. These are inexpensive and easy to administer, but respondents' difficulty in accurately recalling their past activity limits their validity and reliability and may produce conflicting results (Trost, Kerr, Ward, & Pate, 2001).

Self-selection poses another problem in researching sports and physical activity.

Youth whose body mass index is in the normal range are much more likely to be physically active than youth whose body mass index is above normal. Similarly, while skilled athletes may demonstrate attributes such as persistence, endurance, and self-control, it may not be sports involvement that promotes these traits. Other elements of their lives may be responsible (Elkins, Cohen, Koralewicz, & Taylor, 2004; Videon, 2002). These issues pose a quandary for researchers trying to determine if children resist participating in sports because they have a bad body image or if they have a bad body image because they do not participate in sports. The direction of the causal relationship among physical inactivity, low fitness levels, and obesity is a giant unknown.

Associating sports and physical activity with academic achievement poses the same dilemma to understanding causal relationships.

Researchers are asking whether the characteristics associated with high academic achievement–planfulness, goal-directedness, good decision-making, and persistence, for example–draw young people into sports as well. If so, are children and youth who choose sports as an OST activity also more academically motivated (Videon, 2002)?

What Factors and Conditions Influence Youth Participation in Sports and Physical Activity?

Reports such as *Healthy People 2010* (U.S. Department of Health and Human Services, 2000) and *Physical Activity and Health: A Report of the Surgeon General* (U.S. Department of Health and Human Services, 1996) urge that Americans participate in 30 to 60 minutes of exercise a day, with sustained activity for 10 to 15 minutes on most days of the week. The National Association for Sport and Physical Education recommends that children engage in at least 60 minutes of physical activity all or most days of the week (Corbin & Pangrazi, 2003). Still, less than two-thirds of youth in a national survey report that they participate in vigorous exercise three or more times a week (U.S. Department of Health and Human Services, 2000). Their reasons for not doing so, researchers have found, are largely environmental, demographic and individual, and social.

Environmental Influences on Physical Activity

The physical environment significantly affects children's participation in physical activity outside of school. Young people who live near inviting spaces where they can walk, run, and bike are more likely to be physically active than children who live in neighborhoods where there are no sidewalks or bicycle paths. The same is true for children who have access to fitness facilities such as gyms, parks, and swimming pools, classes in aerobics and dance, and equipment such as jump ropes, basketball hoops, and frisbees. Other environmental influences shape children's physical activity as well.

Transportation to schools. The vast majority of American children no longer walk or bike to and from school. Even in large cities where sidewalks are plentiful, many parents send their children to schools too far away to permit traveling on their own. Approximately one-third of students take a school bus, and half ride in private vehicles (U.S. Department of Transportation, 1997). The effects of these trends appeared in a study in which sixth-grade girls who lived the furthest from school were found to spend the least amount of time in physical activity (Cohen, Ashwood, Scott, Overton, Evenson, Voorhees, Bedimo-Rung, & McKenzie, 2004).

Cuts in physical education. The push for high test scores, coupled with budget shortfalls, has reduced, if not eliminated, physical education classes during the school day. Between 1991 and 1995, daily enrollment in high school physical education classes fell from 42 percent to 25 percent (Centers for Disease Control and Prevention, 1997). Less than one in five middle and junior high schools requires daily physical activity for all students. Nationally, only Illinois mandates physical education classes across grades K-12 (O'Shea, 2005).

Unsupervised time and safety. The Bureau of Labor Statistics (1998) reports that more than seven in ten school-age children live in households where both parents, or the only parent, work outside the home. Grandmothers living down the block and neighbors keeping an eye on children playing stickball in the street are yesteryear's environments. One consequence is that many parents, fearing for their children's safety, don't permit their children to play outdoors after school. Children and youth who live in disadvantaged inner-city neighborhoods are perhaps the most at-risk population in this regard.

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Studies consistently show that lower-income children, especially children of lower-income minorities, are less likely to have hazard-free places in which to play than are middle-class and upper-income children.

Availability of parks. Parks and recreation departments used to be major providers of OST services. Today, however, financially strapped communities have either dismantled their parks and recreation programs or been forced to charge fees for their services (Witt, 2001), even though parks can make a powerful difference in young lives. In one study, girls who lived within a half-mile radius from a park engaged in 26 more minutes of moderate-to-vigorous activity a week than did girls who did not live near a park (Cohen, Ashwood, Scott, Overton, Evenson, Voorhees, Staten, McKenzie, & Bedimo-Rung, 2005).

Distribution of play spaces. Researchers have also found play spaces such as parks and recreation centers to be unevenly distributed across communities. The Centers for Disease Control and Prevention (1997) reports that overall physical activity is lower among residents in rural areas than in urban centers, and ascribes part of the cause to rural Americans having fewer recreational opportunities and greater transportation problems. Similarly, another study reports less physical activity among girls, both urban and rural, who do not have playgrounds, parks, and gyms close to home (Felton, Dowda, Ward, Dishman, Trost, & Saunders, 2002).

Television's role. Although American children devote roughly a fourth of their free time to watching television (Hofferth & Sandberg, 2001), research neither confirms nor refutes the claim that television and video games rob children of their time and interest in sports and other physical endeavors. Three or more hours of television viewing appeared to crowd out physical activity in one study (Pate, Trost, Felton, Ward, Dowda, & Saunders, 1997), but another study produced different results. In this study (Roberts, Foehr, & Rideout, 2005), heavy users of television and other media reported spending an hour and 42 minutes a day in physical activity, while light television and media users reported spending an hour and 21 minutes. When researchers looked at the time children spent watching television as opposed to engaging in other activities, both heavy television viewers and light television viewers spent the same amount of time in other activities, an hour and 34 minutes in each case. Even though these and other studies (Taras, Sallis, Patterson, Nader, & Nelson, 1989) found that the number of hours per week that children watch television was not associated with lower levels physical activity, many informed observers insist that such a relationship exists.

Demographic and Individual Influences on Physical Activity

Demographic variables and individual influences help shape children's levels of physical activity. Gender, age, culture, and family income figure prominently in their physical activity patterns.

Gender and age. While physical activity levels drop as both boys and girls get older, the decline is especially acute among girls. Data from Trost and colleagues (1996) suggest that, by fifth grade, boys are nearly twice as active as girls in moderate-to-vigorous or vigorous physical activities. Meanwhile, the Centers for Disease Control and Prevention (1997) reports that the percentage of girls who engage in regular, vigorous activity declines from about 65 percent at age 12 to 50 percent by age 16.

Several explanations have been put forth for girls' drift away from vigorous physical activity. An important one is that body matters mightily, especially among overweight children and overweight girls in particular (Zabinski, Saelens, Stein, Hayden-Wade, & Wilfley, 2003). These children may not want peers to see them in skimpy sports clothes or in a swimsuit. Some girls may see muscle and sweat as not feminine.

Gender also compels physical activity choices. Many boys prefer to play competitive games in teams or with partners. Many girls favor the social aspects of physical activity and steer clear of competitive situations (Centers for Disease Control and Prevention, 1997; Duda, 1992). Girls are also more likely to gravitate toward less vigorous games that have fewer players, or to activities that culminate in shared goals such as a dance performance or personal goals such as weight management.

Race and ethnicity. Racial and ethnic differences in levels of children's physical activity derive from a mix of socioeconomic, environmental, and cultural factors. While girls' physical activity declines across racial and ethnic subgroups as they enter their teens, studies show that this is especially true for black girls, compared with white girls. A 10-year longitudinal study by the National Heart, Lung, and Blood Institute (Kimm, Glynn, Kriska, Barton et al., 2002) found that, while the two groups had roughly the same rates of physical activity at the start, those rates began to drop at the outset of adolescence so that, by the age of 16 or 17, 56 percent of the black girls and 31 percent of the white girls reported no regular leisure-time physical activity, indicating a steeper decline in activity among black girls than among white girls.

Courtesy of Team-Up for Youth, San Francisco Bay Area

The types of activities that girls enjoyed also differed across racial and ethnic groups. Black girls engaged in social dancing to a greater extent and played more basketball than did white girls, but black girls engaged in less calisthenics, ballet and other dance, jogging and running, rollerblading, soccer, softball and baseball, exercise on machines, and swimming, compared with white girls (Dowda, Pate, Felton, Saunders, Ward, Dishman, & Trost, 2004).

An examination of differences in physical activities of Mexican-American and European-American children produced similar results, with Mexican-American children reporting less physical activity and less enjoyment of physical activity (Morgan, McKenzie, Sallis, Broyles, Zive, & Nader, 2003). Mexican-American children also reported having fewer opportunities for safe outdoor play.

Ethnic groups may vary somewhat in the values they want to instill in their children and youth. Views on weight and body image, or on competition versus cooperation, may be culture-specific (Resnicow, Yaroch, Davis, Wang et al., 1999). For example, an early investigation by Allison and Duda (1982) found that Navajo and Mexican-American adolescents were more likely to judge their personal performance by their ability to contribute to the group or team effort, whereas Anglo adolescents tended to judge their success according to whether or not their team won.

Family structure and income. Several researchers have studied effects of family structures and income on children's physical activity. Overall, they found that adolescents from two-parent homes

are more likely to participate in sports and physical activity than are youth in other family structures (Harrison & Narayan, 2003; Videon, 2002). The researchers speculate that two-parent households are better able to marshal funds for transportation and equipment, and they require less help from children with chores and caring for younger siblings.

Exposure to sports also influences athleticism. Fathers, who are typically absent in single-parent homes, have more interest in sports and in supporting children's participation in sports than do mothers (Baum, 1998). Other research has found that same-sex family members exert the most influence on an adolescent's athletic participation, with mothers' athleticism especially salient for girls (Gregson & Colley, 1986; Wold & Anderssen, 1992).

In a comparison of sports participation of children from largely white, middle-class families and from low-income families who were primarily African American or Hispanic, researchers found that 75 percent of children from the middle-class families participated in sports, but only 40 to 60 percent of low-income children did so (Simpkins, Ripke, Huston, & Eccles, 2005). According to U.S. Census data, only 3 percent of six-to-fourteen-year-olds in low-income families take part in organized sports, compared with 26 percent of children in more affluent families.

Social and Self-Perception Influences on Physical Activity

Social influences and self-perceptions play a role in the physical activity of children and youth.

Peer relationships. All youth, but especially adolescents, need to fit in and to belong. The desire to make friends with others with whom they have a common interest, become part of a group, and have a place to meet motivates children and youth to join sports teams or to get involved in other physical activity. In interviews (Patrick, Ryan, Alfeld-Liro, & Fredricks, 1999), adolescents reported that their involvement in sports increased their number of friends and that these bonds of friendship were stronger than those with other friends. Conversely, when youth perceive that playing sports levies substantial social costs by, for example, not leaving them enough time to be with other friends, they may reduce their involvement in sports and physical activity programs (Patrick et al., 1999).

Parental influence. Parents hold considerable sway over their children's development of an active lifestyle, beginning with toddlers' initial exposure to sports and physical activity. Parents' influence can be sorted into four forms: encouragement, involvement, facilitation, and role modeling (Welk, 1999).

Parents encourage their children to be active both directly, by getting them to play outside, for example, and indirectly, by building their children's sense of competence (Biddle & Goudas, 1996). According to Eccles and Harold (1991), parents' expectations about the likelihood of their children succeeding in an activity, combined with the value they place on that success, determines the extent to which they support their children's participation in various activities.

Parents get involved in physical activity with their children by exercising with them. Older overweight girls, who according to research get the least exercise, reported the least parental participation

in physical activity (Zabinski et al., 2003). Parental facilitation can take many forms, including providing transportation, seeking out physical activity programs for their children to attend, and obtaining equipment.

As role models, parents can demonstrate an active and healthy lifestyle for their children to emulate and eventually adopt. Findings by Trost and others (2001) and the Framingham Children's Study (Moore, Lombardi, White, Campbell, Oliveria, & Ellison, 1991) showed that the amount of parents' physical activity strongly and positively correlated to children's physical activity, with the study showing that children of two active parents were six times more likely to be active than children of two inactive parents.

Self-perception. Research has also unveiled individual patterns in participation in sports and physical activity. One such pattern, for example, is children's perceptions of their own competence in an activity. Children who believe they are good at a sport or other physical activity are more likely to participate in it than those who believe they can't do the activity or can't learn to do it (Trost et al., 2001; Weiss, 2000).

Self-perception also can govern children's comfort in new social settings. Shy adolescents, for example, may hesitate to join a group sport or physical activity (Page & Tucker, 1994). A cycle of poor interaction, rejection, and even lower physical activity may result.

What Outcomes Are Associated with Participation in Sports and Physical Activity?

Participation in sports and physical activity yields an array of positive consequences that extend far beyond the skills taught in the sport or activity itself. This review organizes these findings into health, psychological, and educational outcomes.

While these outcomes suggest that well-designed sports and physical activity programs for children and youth have the potential to produce a range of positive outcomes, Siegel (2004) points out that sports attract participants to programs but that there is nothing inherent in the activities themselves that produce positive outcomes. What matters is how coaches and other adults deliver the activities and how children respond to them.

Health Outcomes

The prime health benefit that young people can expect from participating in sports and physical activity is physical conditioning. In terms of weight control, findings show that physical activity without attention to healthy nutrition may prevent weight gain but does not necessarily produce weight loss. However, even without weight loss, physical activity can raise fitness to healthier levels by increasing

aerobic endurance and muscle strength, and lowering blood pressure, high HDL cholesterol levels, triglycerides, and glucose and insulin levels (Pate, Pratt, Blair, Haskell, Macera, Bouchard, Buchner, Ettinger, Heath, & King, 1995).

Analyzing data from the 1997 Centers for Disease Control and Prevention Youth Risk Behavior Survey, Pate, Trost, Levin, and Dowda (2000) found that sports participants were more likely than nonparticipants to report eating fruits and vegetables the previous day, and less likely to report smoking cigarettes, using cocaine or other illegal drugs, or contemplating suicide. However, female sports participants were more likely than nonparticipants to report having sexual intercourse in the past three months. Athletes and non-athletes were just as likely to eat foods high in fat, have one or more binge-drinking episodes during the past month, get involved in a physical fight, and vomit or use laxatives to lose or control weight.

Psychological Outcomes

Studies have shown that when youth participate in structured, positive, physical activity programs, their developmental gains accrue at higher rates than in regular school classes or unsupervised time with friends (Hansen, Larson, & Dworkin, 2003). These programs create protective factors that produce resilience, especially among disadvantaged youth. Such factors include positive identify formation, self-efficacy, and self-esteem (Eccles & Gootman, 2002).

Positive identity formation. Children's friends help form their identity (Eccles & Gootman, 2002). Being part of a social network helps answer adolescents' questions about who they are and their role in society. Children's activities put them in contact with certain types of peers, and that group's norms, values, and behaviors help determine an adolescent's sense of identity. The longer children and youth engage with those peers, the more they are likely to internalize the group's values and norms and to act upon them accordingly. Under optimal conditions, these affiliations and resulting behaviors will prove positive.

Self-efficacy. Self-efficacy, perhaps the most consistently reported influence on youth resiliency, also appears prominently in the research on physical activity. Children and youth who exhibit a belief in their capacity to learn, change, or maintain a skill or behavior will also believe that they are capable of sprinting across the finish line or jumping Double Dutch. Efficacy is closely related to the idea of empowerment and self-regulation (Eccles & Gootman, 2002). Skill-oriented sports and physical activity programs, for example, can develop perceptions in young people that they are indeed capable of learning how to do new things.

At advanced levels of self-efficacy, youth are able to integrate varied psychological traits in order to lead others through reasoning, persuasion, and example. The development of leadership ability is a factor typically expected of young athletes, especially those who play team sports. Student athletes outscore nonathletes on leadership measures, which is consistent with other research on the positive effects of adolescents' sports participation. This finding adds further evidence to the theory that the types of individual and social behavior associated with athletic training and participation may increase or strengthen high school students' leadership potential (Dobosz & Beaty, 1999).

Self-esteem. Like self-efficacy, self-esteem is closely identified with youth resiliency. Smoll, Smith, Barnett, and Everett (1993) found that boys with low self-esteem who joined a baseball team showed higher levels of self-esteem after working with baseball coaches who gave feedback, were non-punitive and encouraging, and provided high-quality technical instruction. The researchers concluded that these coaches, who were trained in interacting with youth in positive ways and using effective coaching techniques, increased the boys' confidence in their ability to play baseball and, along with that, their self-esteem.

G-ROW Boston, Courtesy of Boston Beyond - BYSI

Educational Outcomes

Numerous researchers have looked at the effects of sports participation on educational outcomes, and found that sports participants perform better in school than do nonparticipants (Simpkins et al., 2005). Videon (2002) found that girls who play sports perform significantly better in school than do boys who play sports. These girls had fewer unexcused absences, took more core courses, had higher grade-point averages, and held higher expectations for college.

In New York City, children and youth in OST programs that offered fitness, sports, and recreation activities at high levels made greater gains in mathematics and English skills than did participants in other OST programs (Reisner et al., 2004). The evaluators speculated that the sports and physical activity components of the program drew youngsters into the programs, making it possible for them to benefit from the educational enrichment that the programs also provided.

Other research (Ryska, 2003) found that when students' identities were wrapped up in sports, and, when their personal autonomy was low, their scholastic competence was low as well. However, sports involvement that was characterized by a task orientation, social identification with a sport, and relative autonomy appeared to be associated with greater scholastic competence among both male and female student athletes.

What Are the Characteristics of Effective OST Sports and Physical Activity Programs?

A national survey of 8,000 youth identified "to have fun" as the top reason for their participation in sports. Other important reasons were "to do something I am good at, "to stay in shape," "to learn new skills or improve my skills," and "to play as part of a team" (Seefeldt, Ewing, & Walk, 1992). Effective youth sports and physical activity programs incorporate practices that meet these criteria for youth participation and that use the lessons from research on youth development and OST programming to reorient the sedentary culture that envelops many children and youth.

Diversity Within and Across Programs

Effective OST sports and physical activity programs make exercise attractive and enjoyable for all children and youth, so that all can develop healthy lifelong habits. This means creating comfortable niches for everyone, including children and youth who are overweight, are not athletically inclined, or might be anxious about their ability to perform.

Program diversity to attract participants. OST programs that offer a choice of enjoyable and developmentally appropriate sports and physical activities are likely to draw greater numbers of children and youth. Youngsters who find themselves unable to play one kind of sport may be put off by all physical activity. The key is to offer a full menu of activities so that youth who like camaraderie and competition can play touch football, while others who prefer more individual effort can participate in activities such as track, physical conditioning exercises, and weight lifting. A pilot school working with Tulane University in the Trial of Activity for Adolescent Girls (TAAG) offered classes in cardio-kickboxing and hip-hop aerobics ("TAAG-Not a Game," 2002). Other TAAG programs offered walking/jogging programs that were topped off by 5K races, along with Jazzercise and African/Caribbean dance classes.

Age is important as well. In programs sponsored by The After-School Corporation in New York City (Reisner et al., 2004), young participants, in particular, responded more positively to less formal fitness activities than to structured sports. Appealing physical activities for younger children consisted of stretching, exercising, dancing, and simply running around during free play.

No matter how high children's initial enthusiasm, some will tire of doing the same thing week after week. Some programs change activities monthly, or have 10- to 12-week cycles to keep youth interest high and to expose youth to varied fitness opportunities.

Integration of principles of positive youth development. Sports and physical activity programs that incorporate the many dimensions of youth development spur more positive outcomes than those that concentrate exclusively on skills related to the target activity. This is the hidden or embedded curriculum that lies at the heart of many high-quality youth sports and physical activity programs (Jones & Jones, 2002; President's Council on Physical Fitness and Sport, 1997; Siegel, 2004). For example, team members may come to practice early in order to work with volunteers on homework. Coaches may ask participants to keep a journal and may even ask them to read portions of it out loud to teammates (McLaughlin, 2000). Post-game wrap-ups bring young athletes together for talks on teamwork, personal responsibility, and sportsmanship. One inner-city basketball team ends every practice with a "thumbs-up" or "thumbs-down" self-evaluation in which the director asks players to rate how they are doing in criteria such as "controlling body and mouth," "teamwork," and "helping others." He may also ask team members to similarly evaluate what they are doing to improve themselves outside the gym. Other programs have preceded annual recognition dinners or family pot-lucks with talks about table manners.

Programs sometimes also incorporate supplementary group activities. To help form a support network for participants and to cement their sense of belonging, one sports program reserves Fun Fridays for field trips to bowling alleys, ice-skating rinks, and college ball games (Jones & Jones, 2002). These field trips give participants a chance to get acquainted outside of their usual milieu and build up their store of common experiences.

Still other programs teach responsibility by placing youngsters in charge of setting up and taking care of equipment, such as basketballs, gymnastics mats, or sound equipment for dance sessions. Some programs assign making travel plans for field trips and sports events to older participants.

Opportunities to build knowledge and skills. Many children and youth join sports and physical activity programs because they want to learn to do something new or to sharpen their skills in an activity that has already captured their interest. A high jumper may want to learn to jump higher. A hockey player may want to trade in a hockey stick for a martial arts mat. Effective programs build in sufficient time for children to practice their new skills. The challenge, however, is to draw in those young people whose own self-perceptions keep them on the sidelines. Developing personal workouts or teaching children games they can play at home with siblings can initiate skill development and make reticent youngsters more eager to try new activities.


Courtesy of After School Matters, Chicago

Settings That Support Inclusion and Efficacy

Being included and having a sense of belonging, along with a sense of physical and emotional safety, keeps children and youth coming back.

Children and youth participate in programs where they feel welcome and included, no matter their level of athletic prowess. In effective OST programs, all comers play. Sports and other physical activity are ways to enhance everyone's development, not just that of the athletically talented (Siegel, 2004). These programs design deliberate activities to enhance peer relationships and build group cohesion.

To make programs broadly appealing, sports and physical activity programs can build on the cultural preferences of participating children and youth. The developers of an after-school nutrition and physical activity program for overweight adolescents in a public housing development, for example, emphasized the physical and health benefits of losing weight more than the need to "trim down" because focus groups indicated that participants did not consider being "big" or "thick" unattractive (Resnicow et al., 1999). The 30- to 60-minute physical activity component of this three-part program, which also included an interactive educational/behavioral activity and the preparation of low-fat recipes, featured step aerobics, commercial aerobic videotapes, toning, walking, jump rope, and outdoor games, as well as hip hop/funk aerobics.

The Pathways program (Davis, Going, Helitzer, Teufel, Snyder, & Gittelsohn, 1999), a school-based health and physical fitness program for American Indian children, incorporates American Indian customs and practices such as oral history, a holistic view of health and health practices, involvement of younger generations in everyday activities, and the concept of community in which everyone contributes to the group's well-being. Children learn traditional games that they can also play out of school.

Part of learning about each game involves understanding its origin, significance, and how it was traditionally played.

Helping youth develop a sense of efficacy can increase their participation in sports and physical activity. Part of developing efficacy is experiencing success. Zabinski and colleagues (2003) suggest helping children learn to appreciate their bodies for what they can do, rather than how they look, to reduce the self-consciousness or embarrassment that prevent some children and youth from participating in sports and other physical activity.

A case study school in the evaluation of Lifestyle Education for Activity Program (LEAP) confirms this strategy (Felton, Saunders, Ward, Dishman, Dowda, & Pate, 2005). LEAP's developers believe that teachers and other school staff must tailor interventions to fit into specific environments. Consequently, they offer gender-separate physical education classes to get more girls to enroll and present enjoyable, lifelong activities to encourage physical activity outside of class. Ninety percent of the girls who enrolled said they came to like physical education and believed they were more active as a result.

Enough Time

Practice improves performance. As in other areas of learning, the more time youth spend learning and practicing a new skill in sports and other physical activities, the higher their level of performance. The higher their level of performance, the greater the odds that they will continue the activity. Conversely, youth who become frustrated at not getting to play or not having enough playing time to learn the skills they need to become competent are likely to drop out of the game or activity. Implementing this principle may require rethinking OST program schedules (U.S. Department of Health and Human Services, 1996).

Children's physical-activity experiences set exercise patterns for life. Experts often recommend that children learn activities that they can carry over into adulthood. Some sports are better for this than others. For all their developmental benefits for children and adolescents, team sports, for example, may not lead to a lifetime of physical activity because few adults have regular opportunities to play them. Hovell, Sallis, Kolody, and McKenzie (1999) suggest that youth acquire more experience when they engage in activities that they can do alone, with one other person, or in small groups because these are easier to sustain in adulthood.

One of the few studies to shed any light on how adolescents' patterns of physical activity change over time is a longitudinal study in which adolescents reported how they spent their time as they got older (Aaron, Storti, Robertson, Kriska, & LaPorte, 2002). Unsurprisingly, they spent less time in physical activity the older they got. But probing deeper, the researchers discovered that the decrease was due to these adolescents participating in fewer activities as they got older, not the time they spent on any one activity. In fact, adolescents who kept up an activity as they became older devoted either the same amount of time on it as they had earlier or even more. The implication of this for designing physical activity programs for children and youth, the researchers explain, is that it may be critical to expose preadolescent children to as many activities as possible, in order to increase the likelihood that they continue to participate in some of them in later years.

Establishment of Behavior Standards

Developing and reinforcing standards that are high, clear, and fair adds structure, stability, and predictability to the settings in which children and youth function (Eccles & Gootman, 2002). In effective out-of-school sports and physical activity, children and youth respect these standards and understand why they exist.

For example, sixth-grade boys in the No Bad Actions (NBA) before-school basketball program follow strict academic and behavior standards in order to participate (Slate & Jones, 2003). Should they fail a subject or receive an in-school suspension, they're suspended from the team and allowed to return only when their grades improve or after their suspension is lifted. While suspended from the team, in place of playing basketball, they attend tutoring sessions and meet with a counselor.

Parents, mentors, and participants in a youth golf program endorse many of the same standards and practices and recognize the necessity of adopting structured rules (Petrick & Witt, 2000). Programs in some communities have established youth advisory boards so that older youth can contribute their ideas to the creation of rules and governance, a practice that can build ownership of an activity.

Some youth organizations advertise a zero tolerance for poor behavior and go so far as to ask youngsters to sign a pledge not to bring weapons, drugs, or alcohol to meetings, practices, or other events, and not to use foul language (McLaughlin, 2000). However, the evaluators of Kids on the Move, a program developed at Children's Healthcare of Atlanta for 8- to12-year-olds, warn that handling infractions in programs aiming to increase youth participation in sports and physical activity takes forethought (Naran, 2002). Making participants sit out physical activity because of bad behavior can convey to young people that their physical activity is not that important after all.

Education of Adults

Adolescents, in particular, often seek emotional support and practical advice from adults whom they trust outside their own families. For that reason, the quality of adult leadership is a key factor in maximizing the benefits of OST sports and physical activity programs.

The importance of youth building strong and trusting relationships with adults who care about and understand them and who are able to reinforce, model, motivate, and give them feedback is one of the strongest findings in the research on youth development and OST programs (Barnett, Smoll, & Smith, 1992). Coaches and instructors play a particularly important role in this process by emphasizing certain outcomes over others, offering social support, encouraging effort, and reinforcing improvement instead of insisting that the goal always be winning (Smith, Smoll, & Barnett, 1995).

The importance of adults motivating and even prodding youngsters to be physically active appears in an assessment of Promoting Lifetime Activity for Youth (PLAY), a program sponsored by the Arizona Department of Education (Ernst & Pangrazi, 1999). The program gave fourth- through sixth-grade students a 15-minute activity break each school day. Students were not required to engage in

continuous activity but were required to participate in a self-selected activity that involved something other than standing or sitting. The researchers found that simply giving students a break did nothing to increase their activity levels, however. The teacher had to be present to guide and, particularly, to participate in an activity before students' activity levels increased.

Sallis and his colleagues (Sallis, McKenzie, Alcaraz, Kolody, Faucette, & Hovell, 1997) reported similar findings in evaluations of a program called Sports, Play, and Active Recreation for Kids (SPARK). This evaluation found that very few children were physically active during unstructured time. An evaluation of Kids on the Move found that children enjoyed activities more if the facilitator joined them (Naran, 2002).

Child and Adolescent Trial for Cardiovascular Health (CATCH) is an elementary-grades program that highlights adult leadership in OST programs. Researchers found that the presence of trained leaders was a major factor in the program remaining alive five years after its initial implementation (Kelder, Mitchell, McKenzie, Derby, Strikmiller, Luepker, & Stone, 2003). Teachers who had attended CATCH training sessions were more likely than untrained teachers to encourage and praise students, deliver clear instruction, ensure an adequate student-to-equipment ratio, and provide group instruction with the appropriate number of students. These teachers also provided more warm-up and cool-down segments than did teachers not trained in CATCH.

Similar findings emerged in a study of a training program for Little League Baseball coaches (Barnett et al., 1992). Here, players reported their perceptions of their coaches, teammates, and other aspects of their athletic experience. Overall, players in programs that had trained coaches were fonder of their coaches than were players whose coaches were untrained. The players also believed that their coaches liked them more. They said that their coaches took a positive approach with them, gave them positive reinforcement and encouragement, and were not punitive. Finally, they rated their coaches as better teachers than did players of untrained coaches.

This positive atmosphere in Little League Baseball programs paid off among teammates as well. Players liked their teammates more than did players of untrained coaches, and had more fun with one another. The researchers also found that, when boys who had low self-esteem played for trained coaches, their self-esteem increased (Smoll et al., 1993). When viewed in terms of social support, the researchers say, these positive relationships heightened children's enjoyment of the activity and mediated the anxiety and stress that often come with competitive sports (Smith et al., 1995).

Facilities and Equipment

Young people who have access to recreational facilities and programs are more active than those without access (Sallis, Conway, Prochaska, McKenzie, Marshall, & Brown, 2001). If facilities can offer space outdoors, so much the better, because simply being outdoors increases children's level of activity. One of the challenges in increasing youth activity is for communities to commit resources to construct or redevelop activity-friendly environments such as school playgrounds and ball fields, parks, walking and running trails, and other recreation facilities.

Frequently, schools have the facilities but not the personnel to deliver physical activity programs. To remedy this situation, OST programs can collaborate with existing school programs to allow OST program personnel to use school facilities for sports and physical-fitness programs for children and adolescents, including weight-management programs for overweight or obese children and necessary program adaptations for young people with disabilities or chronic health conditions.

Kelder et al. (2003) found that worn-out or broken equipment was a major factor determining the level of implementation of the CATCH physical education program. Regular inspections of both facilities and equipment are essential to ensure a hazard-free environment for all children, youth, and adults, not only during activities, but before, after, and between activities as well (Eccles & Gootman, 2002; National Association for Sport and Physical Education, 2001).

Involvement of Parents

Sports and physical activity are a community-building mechanism in which parents get to meet other parents. In this regard, OST programs offer parents a dual role: that of active community member and that of parent.

Developing varied ways that parents can participate is key to parent involvement. Some parents may want a say in an activity's initial planning and may remain involved in keeping the program going as long as their children participate in it. Generally, however, the success of programs that have tried to design a central role for parents has been mixed. Most often, parental support is in the form of attending events, coaching, and providing transportation. At the very least, parents should be encouraged to make sure that their children participate regularly in sports and physical activity programs.

Parent participation, however, is not always positive and can, in fact, be a source of stress for young athletes. Everyone has seen reports in the media about overwrought and overly competitive parents marring children's sporting events with violent outbursts aimed at coaches, other parents, and youngsters. Fortunately, although widely reported, these incidents are the extreme. Nonetheless, parents who place strong performance pressures on children may benefit from counseling by coaches who are trained to deal with such behavior (Smith et al., 1995).

Relationships with Intermediary Organizations

Increasing participation in sports and physical activity among children and youth involves building bridges between organizations at several different levels. Large intermediary organizations such as LA's BEST can create infrastructures through which community organizations can muster resources such as funding and training, as well as access to people and facilities. Such centralization can also encourage coordinated programming to give children more sports and physical activity choices, advocacy for developing and expanding facilities, networking opportunities for staff, transportation, and research and evaluation (Le Menestrel et al., n.d.; Siegel, 2004).

What Are the Policy and Practice Implications?

Current research gives us many reasons to explain why youth don't participate in sports and physical activity. They may lack opportunity or interest. Clearly, many inner-city neighborhoods lack facilities and resources. However, not all the reasons are so obvious. Youth may need to care for younger siblings after school, they may lack essential transportation, and older youth may need to work. The cause of inactivity may be excess weight or obesity. Managers of OST physical activity programs for children and youth first need to assess the reasons for nonparticipation and then figure out how to overcome each of these barriers. Although this reviewwas not intended to develop recommendations, some of the research findings reported here do point to ways that OST programs can effectively incorporate sports and physical activity.

These findings also leave a particularly rich area for further investigation. As this review points out, the research on youth sports and physical activity is riddled with gaps and conflict. The field needs to know much more about the relationships between physical activity and weight loss, as well as the links among physical activity and academic achievement, television viewing, and opportunities for exercise. In addition, the field needs to learn how to conduct better studies in order to present clearer findings in the future.

The challenge is to determine how best to use what we already know about youth development, OST programs, and sports and physical activity to give children and youth the best programming right now, even while some of the answers elude us. The first step is to raise awareness of the importance of these programs in communities. Successful implementation will then require the coordinated efforts of funders, policymakers, and practitioners. It will also mean collaborating with parents and other community members to remove barriers that keep too many children and youth from being physically active. While the research may be limited, the opportunities we provide to children and youth who live in our poorest neighborhoods cannot afford to be.

Courtesy of After School Matters, Chicago

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