

Promoting the Physical Health of Boys and Girls

Examples from Five Afterschool Programs



Afterschool programs provide opportunities for physical activity for millions of children in the United States. This brief summarizes how five afterschool programs—representing diverse geographic regions, program settings, and served populations—leverage their roles and view their contributions to promoting young children’s physical health and how that differs by the gender of the participants.

Key Findings

All programs identified physical activity as an important goal.

Programs used a variety of strategies to encourage physical health and well-being, including targeted activities, a wide range of activities to appeal to children’s interests, and healthy snacks and nutritional education.

Staff encouraged boys and girls to participate in activities they enjoy, regardless of gender expectations. This was especially true for encouraging girls to participate in sports or physical activities.

Programs did not include sufficiently vigorous physical activities to meet the recommended standards.

Staff frequently mentioned the importance of treating boys and girls equally, both in terms of programming around physical activities and in their interactions with them.

Background

Among children aged 6 to 12 (middle childhood) 18.4 percent have obesity,¹ a nearly three-fold increase from 6.5 percent in 1980.² Childhood obesity is a serious risk factor for adolescent and adult health problems including type 2 diabetes, hypertension, and cardiovascular disease.³ Hence, obesity is a critical target for prevention and intervention during middle childhood. Exercise and

attitudes toward physical fitness, coping with stress, tobacco and alcohol abuse, and dietary habits are some of the lifestyle characteristics that can be targets of health promotion and prevention during this developmental period.⁴

Interventions in middle childhood can have wide-ranging benefits. In response to the epidemic of childhood obesity, the American Academy of Pediatrics 2008 report⁵ provided several guidelines and recommendations for children and adolescents to eat a healthy diet and increase their physical activity. Successful behavioral interventions include nutritional education to encourage a nutrient-rich, low-sugar diet combined with moderate-to-vigorous exercise.⁶

Improvements in physical health also benefit other developmental domains—including social-emotional, cognitive, behavioral, and physical development. Child development within and across domains is interrelated and interdependent, meaning that improvements or declines in one domain influence other domains. For example, prior studies found that more physically fit children exhibit improved cognitive functioning and greater attention and decision-making skills.⁷

Health disparities in childhood and adolescence. Healthy People 2010 set goals for the health of the United States in the first decade of the 21st century.⁸ The report suggested two overarching goals: (1) increase the quality and years of healthy life and (2) eliminate health disparities, defined as “differences that occur by gender, race or ethnicity, education or income, disability, geographic location, or sexual orientation.”

Afterschool programs provide opportunities to support these goals for millions of children. This brief includes findings and recommendations related to physical health for boys and girls from a gender perspective. This perspective defines gender as socially constructed roles, behaviors, and identities of people, rather than focusing on biological sex, which refers to a set of biological attributes that are associated with physical characteristics.⁹ For an overview of the study, see the related brief entitled *“Providing an Essential Service: An Overview of Afterschool Program Support of Children’s Social-Emotional, Behavioral, and Physical Health During Middle Childhood.”*

Differences by gender and other factors. Studies show differences in obesity rates for boys and girls are small; that is, similar numbers of girls and boys have obesity. However, important differences exist for subgroups of children and for different types of body fat. One study found higher rates of obesity among African American girls and lower ones among South Asian girls.¹⁰ Another study found obesity to be higher among non-Hispanic African American and Hispanic children than among White and Asian children.¹¹ Further, research has also shown the distribution of body fat varies by gender. Boys are more likely to carry body fat in the abdominal area, and this pattern is linked to higher rates of cardiovascular risk later in life. Yet girls with high body fat are more likely to show psychosocial consequences such as lower self-esteem and discrimination by peers.¹²

Promoting healthy eating habits and lifestyle choices in afterschool programs during middle childhood may be especially beneficial for girls.

During middle childhood and throughout adolescence, girls tend to be less physically active than boys.^{13 14} Physical activity in adolescent girls, in particular, whether through sports team participation or regular exercise, has both immediate and lifelong health benefits. These benefits include improved bone mineral density, reduced cardiometabolic risk factors, lower lifetime rates of breast cancer, lower rates of sexual risk-taking behaviors, and improved self-esteem.¹⁵

Despite the benefits, some girls remain reluctant to participate in physical activities due to persistent stereotypes, assumptions, and expectations surrounding gender and the behaviors, interests, and attitudes that are considered more appropriate for females.¹⁶ Indeed, studies generally find greater benefits in physical health outcomes for boys than girls. For example, the Bienestar intervention, a school-based program consisting of a health class and physical education curriculum, a family program, a school cafeteria program, and an after-school health club all designed to improve the health of school-age children, was more effective at improving aerobic capacity for boys compared to girls.¹⁷ Studies of other programs reported greater increases in daily physical activity¹⁸ and improved body weight¹⁹ for boys more than girls. Programs that have been successful at promoting girls' involvement in physical activity show positive impacts on body image, self-esteem, and eating attitudes/behaviors.^{20 21} These programs recognize girls have their own distinct needs and competencies. For example, school-age girls typically have more body fat than boys and have poorer eye-hand coordination at this age.²² Successful programs are characterized by gender sensitive strategies that support the unique needs, interests, and skills of girls,^{23 24 25} such as activities focusing less on performance or including direct competition only with other girls.

Programs that have been successful at promoting girls' involvement in physical activity show positive impacts on body image, self-esteem, and eating attitudes/behaviors.

Afterschool programs may be well positioned to support the healthy development of children in middle childhood. More than 10 million participate in afterschool programs, often for 15 or more hours per week. In 2011, the National Afterschool Association recommended standards for healthy eating and physical activity (HEPA) for children attending afterschool programs. The HEPA standards address the content and quality of food and beverages, physical activity, staff training, social supports, program supports, and environmental supportⁱ.

ⁱ The full list of HEPA standards can be found at <https://naaweb.org/resources/naa-hepa-standards>

Example of HEPA Standards

- All food and beverages served should follow the Dietary Guidelines for Americans standards.
- Programs should offer 10 minutes of physical activity for each hour of programming.
- At least 50 percent of physical activity time should involve moderate-to-vigorous activity.
- All staff members should participate in training or professional development on healthy eating, nutrition, and physical activity at least once per year.

Opportunities for afterschool programs to improve physical health and development. Research suggests afterschool programs can help children improve their physical health. Successful programs often include 30 to 70 minutes of moderate-to-vigorous physical activity and age-appropriate lessons in health and nutrition. Examples include FITKids,²⁶ Youth Fit for Life,²⁷ and Fit-2-Play.²⁸ Physical activities often include daily participation in games and sports. Healthy eating behaviors are encouraged by providing healthy snacks and education about food choices, especially avoiding sugary sodas.

Findings From Site Visits to Five Afterschool Programs

Interviews with program staff and observations of program activities during two-day site visits yielded rich information about efforts to promote physical health. All programs identify physical activity as an important goal. Staff consistently highlighted that children need physical activity, especially after sitting in school all day, and recognized the importance of physical activity for overall health.

“As the coach, I try to push a lot of physical activity and sports because you know, nowadays, with sports in public schools, you have to pay to play and everybody wants to sit down and play Xbox, PlayStation and not be physical. So I encourage the kids to get out there and run and be, you know...get the energy out.”

Programs actively sought to promote physical health. The programs implemented a variety of strategies around physical health. These included curricula targeting physical activities—sometimes including prescribed daily goals—a wide range of activities to appeal to children’s interests, healthy snacks, and nutritional education.

Three programs rely on curricula related to physical health. These range from detailed lesson plans to guidelines for promoting active learning. One program has a curriculum provided by their parent organization that includes goals for physical activity, lesson plans/instructions, targeted skills, materials needed, and debriefing questions. It was not clear whether the programs or parent organizations drew from evidence-based approaches when designing the curricula and activities.

Four programs have daily targets for physical activity, ranging from 15 to 45 minutes per day. However, staff indicated targets may not be met due to scheduling difficulties, competing activities, lack of supplies/equipment, insufficient staff, inclement weather, or low interest or enthusiasm among the children for the planned activities.

Most programs hope to engage all children by offering a wide variety of physical activities. Most popular were basketball, dodgeball, and volleyball, as well as unstructured play on playgrounds. Some programs expected all children to participate in certain activities, such as dodgeball. At other times, they may choose activities such as basketball or badminton. Staff at three programs talked about the importance of choice for engaging children in active play.

All programs offer healthy snacks and education about the importance of nutritional choices for healthy growth. Three offer healthy meals. Staff at one program indicated meals are provided to children at sites when the percentage of enrollment by low-income families reaches a predetermined point.

Considering gender and age in program activities. Program staff discussed the need to consider age and gender when deciding which activities to offer. Staff frequently mentioned the importance of treating boys and girls equally, both in terms of programming physical activities and in their own interactions with children. Staff at two programs reported it can be easier to engage boys in physical activities than girls. Some staff reported they see children benefiting differently from same-gender and mixed-gender groups and thus try to offer opportunities for both. For example, each week one program reserved time for only girls to use the gym for games such as badminton and volleyball.

“We try not to really make it about gender. It's more about age, I would say, like age-appropriate activities. We do not do like the ‘boys can get this and girls can get that.’”

Staff across programs consistently mentioned the need and effort to ensure age-appropriate activities. One staff member talked about the importance of continually adapting activities depending on the age and gender of children, rather than simply implementing a curriculum as written. This often involved considering the interests of the children, the composition of the group participating, and resources available on any particular day.

“I would say that we've been really mindful about, for a long time, to not create gender disparity inside programming because it happens unconsciously. And so we're really committed to that. And so anything that we offer to the boys, we offer the girls and vice versa.”

Physical health can promote health in other areas. Staff used physical activities to improve skills, build confidence, and improve peer relationships. One program works closely with community partners, including a nearby martial arts school, to provide opportunities for children to become more fit, learn new skills, and increase confidence. The staff described the importance of programming activities to help children thrive in all aspects of their lives, including social-emotional, cognitive, and physical health.

Staff at another program talked about how they use sports and games to help children be more physically active; improve their overall health; and teach athletic and life skills such as leadership, teamwork, sportsmanship, problem solving and conflict resolution.

At some programs, the physical environment contributes to promoting healthy lifestyles. One program offers snacks and meals in a room with art on the walls focused on health-related messages including nutritional choices, avoiding drug use, and using seat belts.

“I think if you overemphasize one (aspect of development), you neglect another. And that too often happens, that children may be developing good cognitive intellectual structures, but have low self-confidence. Or they may be feeling very physically fit but struggling with focus at school. And when those elements develop in concert, they strengthen each other.”

Observations of physical health activities. As part of site visits, the two-person teams conducted structured observations of afterschool program content, activities, and interactions. Observers noted that most boys and girls participated in group sports such as kickball, dodgeball, and others. When offered choices, some differences by gender were observed. At two sites, observers noted that given “unstructured choices”²⁹ more boys than girls played basketball. In contrast, girls at three of the sites chose more interactional or relational activities like art, cooking classes, and socializing. Structured observer ratings of physical activities showed children were engaged and working well with peers. Activities were well-organized and staff were engaged, interested, and enthusiastic. However, activities rarely reached the recommended duration of moderate-to-vigorous play to meet HEPA

standards. Observers also noted that physical space and weather sometimes interfered with opportunities for physical activity. Access to physical space varied across the sites. Programs in urban areas took place in classrooms and gymnasiums while programs in suburban and rural areas had access to athletic fields and playgrounds. One program operated in a cafeteria with limited indoor space but access to a playground. Cold or rainy weather, however, sometimes limited the use of outdoor spaces.

Program Successes and Opportunities for Improvement

Staff at all sites were consistently seen encouraging both boys and girls to participate in physical activities. Some staff noted the importance of modeling for children. At one site, female staff played basketball to encourage girls to play and be physically active. Children encouraged and supported each other during games and team sports. Off task interactions also occurred, especially while children were waiting for their turns during games.

However, program staff should offer more vigorous physical activities that have been shown to promote healthy development. To accomplish this, programs need sufficient physical space, indoors and out, for children to engage in them. Additionally, programs should include staff training around relational issues that may be more salient for girls, such as teasing and bullying which may inhibit girls from engaging in activities they may prefer, such as dance and running.³⁰ Programs and activities should take advantage of the variability in interests and abilities of girls and boys of different racial/ethnic and income backgrounds.

Implications for Policy and Practice

As noted above, all programs identified physical activity, nutrition, and other lifestyle choices as program goals, recognizing the importance of physical health for children's development in multiple domains. Staff actively worked to treat all children, girls and boys, fairly and equally and offered a wide variety of activities to engage children with diverse interests.

In practice, however, the programs did not include sufficiently vigorous physical activities to meet the recommended standards. Program staff need training and resources to implement developmentally appropriate and vigorous physical activities. The programs generally offered activities and opportunities equally to boys and girls. To better support healthy development in middle childhood, afterschool programs should consider the unique needs, interests, and abilities of both girls and boys.

References

- ¹ Hales, C. M., Carroll, M. D., Fryar, C. D., & Ogden, C. L. (2017). Prevalence of obesity among adults and youth: United States, 2015-2016. *National Center for Health Statistics Data Brief, 288*, 1-8.
- ² Ogden, C. L., & Carroll, M. D. (2010). Prevalence of obesity among children and adolescents: United States, trends 1963–1965 through 2007–2008. *Health E-Stat*. Retrieved from http://www.cdc.gov/nchs/data/hestat/obesity_child_07_08/obesity_child_07_08.htm
- ³ Sahoo, K., Sahoo, B., Choudhury, A. K., Sofi, N. Y., Kumar, R., & Bhadoria, A. S. (2015). Childhood obesity: Causes and consequences. *Journal of Family Medicine and Primary Care, 4*, 187–192.
- ⁴ Shonkoff, J. P. (1984). The biological substrate and physical health in middle childhood. In W. Andrew Collins (Ed), *Development in Middle Childhood*, pp. 24-69. Washington, D.C.: National Academy Press
- ⁵ Daniels, S. R., Greer, F. R., & the Committee on Nutrition (2008). Lipid screening and cardiovascular health in childhood. *Pediatrics, 122*, 198-208.
- ⁶ Weihrauch-Blüher, S., Kromeyer-Hauschild, K., Graf, C., Widhalm, K., Korsten-Reck, U., Jödicke, B., Markert, J, Müller, M, Moss, A., Wabitsch, M. & Wiegand, S. (2018). Current guidelines for obesity prevention in childhood and adolescence. *Obesity Facts, 11*, 263–276.
- ⁷ Hillman, C. H., Pontifex, M. B., Castelli, D. M., Khan, N. A., Raine, L. B., Scudder, M. R., Drolette, E. S., Moore, R. D., Wu, C. T., & Kamijo, K. (2014). Effects of the FITKids randomized controlled trial on executive control and brain function. *Pediatrics, 134*, e1036-e1071.
- ⁸ National Center for Health Statistics. (2012) *Healthy People 2010 Final Review*. Hyattsville, MD.
- ⁹ Heidari, S., Babor, T.F., De Castro, P. Tort, S., & Curno, J. (2016). Sex and gender equity in research: Rationale for the SAGER guidelines and recommended use. *Research Integrity and Peer Review, 1*, 1-9.
- ¹⁰ Sweeting, H. N. (2008). Gendered dimensions of obesity in childhood and adolescence. *Nutrition Journal, 7*, 1-14.
- ¹¹ Hales, C. M., Carroll, M. D., Fryar, C. D., & Ogden, C. L. (2017). Prevalence of obesity among adults and youth: United States, 2015-2016. *National Center for Health Statistics Data Brief, 288*, 1-8.
- ¹² Wardle, J., & Cooke, L. (2005). The impact of obesity on psychological well-being. *Best Practice & Research Clinical Endocrinology & Metabolism, 19*, 421-440.
- ¹³ Boyle, D. E., Marshall, N. L., & Robeson, W. W. (2003). Gender at play: Fourth-grade girls and boys on the playground. *American Behavioral Scientist, 46*, 1326-1345.
- ¹⁴ Telford, R. M., Telford, R. D., Olive, L. S., Cochrane, T., & Davey, R. (2016). Why are girls less physically active than boys? Findings from the LOOK longitudinal study. *PloS one, 11*, e0150041.
- ¹⁵ Sweeting, H. N. (2008). Gendered dimensions of obesity in childhood and adolescence. *Nutrition Journal, 7*, 1-14.
- ¹⁶ Scraton, S. J. (2017). Images of femininity and the teaching of girls' physical education. In J. Evans (Ed), *Physical Education, Sport and Schooling*, pp. 71-94. London: Routledge.

-
- ¹⁷ de Heer, H. D., Koehly, L., Pederson, R., & Morera, O. (2011). Effectiveness and spillover of an after-school health promotion program for Hispanic elementary school children. *American Journal of Public Health, 101*, 1907-1913.
- ¹⁸ Beets, M. W., Weaver, R. G., Turner-McGrievy, G., Huberty, J., Ward, D. S., Pate, R. R., Freedman, D., Hutto, B., Moore, J. B., Bottai, M., Chandler, J., Brazendale, K., & Beighle, A. (2016). Physical activity outcomes in afterschool programs: A group randomized control trial. *Preventive Medicine, 90*, 207-215.
- ¹⁹ London, R. A., & Gurantz, O. (2013). Afterschool program participation, youth physical fitness, and overweight. *American Journal of Preventive Medicine, 44*, S200-S207.
- ²⁰ Bohnert, A. M., & Ward, A. K. (2013). Making a difference: Evaluating the Girls in the Game (GIG) after-school program. *The Journal of Early Adolescence, 33*, 104-130.
- ²¹ DeBate, R. D., & Thompson, S. H. (2005). Girls on the Run: Improvements in self-esteem, body size satisfaction and eating attitudes/behaviors. *Eating and Weight Disorders, 10*, 25-32.
- ²² Telford, R. M., Telford, R. D., Olive, L. S., Cochrane, T., & Davey, R. (2016). Why are girls less physically active than boys? Findings from the LOOK longitudinal study. *PLoS one, 11*, e0150041.
- ²³ Dziewaltowski, D. A., & Rosenkranz, R. R. (2014). Youth development: An approach for physical activity behavioral science. *Kinesiology Review, 3*, 92-100
- ²⁴ Weiss, M. R., Kipp, L. E., & Bolter, N. D. (2012). Training for life: Optimizing positive youth development through sport and physical activity. *The Oxford Handbook of Sport and Performance Psychology, 448-475*.
- ²⁵ Zarrett, N., Sorensen, C., & Skiles-Cook, B. (2015). Physical and social-motivational contextual correlates of youth physical activity in underserved afterschool programs. *Health Education and Behavior, 1-12*.
- ²⁶ Hillman, C. H., Pontifex, M. B., Castelli, D. M., Khan, N. A., Raine, L. B., Scudder, M. R., Drolette, E. S., Moore, R. D., Wu, C. T., & Kamijo, K. (2014). Effects of the FITKids randomized controlled trial on executive control and brain function. *Pediatrics, 134*, e1036-e1071.
- ²⁷ Annesi, J. J., Smith, A. E., Walsh, S. M., Mareno, N., & Smith, K. R. (2016). Effects of an after-school care-administered physical activity and nutrition protocol on body mass index, fitness levels, and targeted psychological factors in 5- to 8-year-olds. *Translational Behavioral Medicine, 6*, 347-357.
- ²⁸ Messiah, S. E., Diego, A., Kardys, J., Kirwin, K., Hanson, E., Nottage, R., Ramirez, S. & Arheart, K. L. (2015). Effect of a park-based after-school program on participant obesity-related health outcomes. *American Journal of Health Promotion, 29*, 217-225.
- ²⁹ Zarrett, N., Sorensen, C., & Cook, B. S. (2015). Physical and social-motivational contextual correlates of youth physical activity in under-resourced afterschool programs. *Health Education & Behavior, 42*, 518-529.
- ³⁰ Zarrett, N., Sorensen, C., & Skiles-Cook, B. (2015). Physical and social-motivational contextual correlates of youth physical activity in underserved afterschool programs. *Health Education and Behavior, 1-12*.

Authors

W. Todd Bartko, Mariel Sparr, and Jill Filene
James Bell Associates

Stacy Frazier
Florida International University

Submitted to

Pamala Trivedi, Ph.D., Project Officer
Office of the Assistant Secretary for Planning and Evaluation
U.S. Department of Health and Human Services
Contract Number: HHSP233201500133I

Alexia Blyther, MSW, LIC SW and Stephanie Alexander, MS
Office on Women's Health
Office of the Assistant Secretary for Health
U.S. Department of Health and Human Services

Prepared by

James Bell Associates
3033 Wilson Boulevard, Suite 650
Arlington, VA 22201
(703) 528-3230
www.jbassoc.com

W. Todd Bartko, Ph.D.
Project Director

We would like to thank the administrators, staff, and children of the five afterschool programs for their invaluable assistance with this study. We would also like to thank Colleen Morrison, Patrice Cachat, Kassandra Miller, and Nivi Ranade for their contributions.

This report is in the public domain. Permission to reproduce is not necessary. Suggested citation: Bartko, W. T., Sparr, M., Frazier, S., & Filene, J. (2020). *Promoting the physical health of boys and girls: Examples from five afterschool programs*. Washington, DC: Office of the Assistant Secretary for Planning and Evaluation & Office on Women's Health, Office of the Assistant Secretary for Health, U.S. Department of Health and Human Services.

Disclaimer

The views expressed in this publication do not necessarily reflect the views or policies of the Office of the Assistant Secretary for Planning and Evaluation, Office on Women's Health, Office of the Assistant Secretary for Health or the U.S. Department of Health and Human Services. This report and other reports sponsored by the Office of the Assistant Secretary for Planning and Evaluation are available at www.aspe.hhs.gov.



Office on
Women's Health

