

Physical Activity Recommendations for Middle School Youth

Rebecca A. Battista, Ph.D., Appalachian State University

Amy Baete, MBA, Sanford Health

Megan E. Holmes, Ph.D., Mississippi State University

Karissa L. Peyer, Ph.D., University of Tennessee-Chattanooga

Introduction

We have yet to understand the full impact of COVID-19 related closures, cancellations of school, youth sports, and other physical activities, on youths' health. We do know COVID-19 has prompted teachers, coaches, and fitness professionals to shift in how they provide physical activity opportunities to youth. Disparities and limited access to resources have also accentuated the existing inequities that leave youth with fewer opportunities to be active. The lessons learned from these experiences have better positioned stakeholders to adjust and better advocate for improvements to promote physical activity in youth.

Middle school youth face many changes and challenges as they transition from elementary to high school students. Utilizing the National Physical Activity Plan (NPAP) societal sectors, recommendations regarding the promotion of physical activity in middle school youth are presented.¹ Our focus includes schools, home and community and presents stakeholders (e.g., parents, youth, teachers, policy makers) with ideas and guidance for making necessary changes specific to the middle school youth and physical activity.

Middle school youth's physical activity behaviors are often impacted by physical, social-emotional, and environmental factors. These factors become important as policies and guidelines regarding physical activity are implemented. Understanding the developmental differences within this age group allows for more detailed recommendations and guidelines regarding promoting and supporting physical activity. Encouraging and supporting efforts to comply with the current physical activity guidelines for youth (e.g., 60 minutes of moderate to vigorous physical activity per day) continues to be an ongoing public health initiative.² While the Call To Action and Executive Summary provides broad guidance for all school-aged children and youth, this section focuses on middle school youth to suggest additional items that are important for this age group.

Schools

The role of physical activity changes as children grow and mature. For young children, the initial focus is on developing fundamental movement skills, but as children enter middle childhood, or adolescence, the focus shifts to physical fitness as the skills necessary to be active have been developed. This is also the age at which lifelong habits or behaviors can be

initiated, including being physically active. Thus, creating positive behavioral settings are important for this age group.³

The transition between elementary school to high school presents challenges including changes to required physical education and opportunities for school based physical activity. The coordinated effort to address these unique issues is the Comprehensive School Physical Activity Program (CSPAP) model⁴, and it is central to the Education Sector of the National Physical Activity Plan.¹ The sweeping nature used in the CSPAP encourages a multi-faceted approach to addressing physical activity in schools—in the physical education classroom as well as other aspects of school life. Beyond physical education, CSPAPs distinctly recognize the role and try to foster opportunities for physical activity before, during, and after school, as well as the necessary involvement of key influencers such as family, school staff, and community members, which in turn fosters more collaborative opportunities across the NPAP.⁴

Beyond the traditional education and socialization roles, it is important to recognize the role schools serve as community focal points, or hubs, through which a variety of information and services can be implemented. With over 35.3 million students enrolled in prekindergarten to grade 8, the school has a unique positioning in a community that can be leveraged to facilitate meaningful collaborations to effectively address the physical activity needs of students and their families.⁵

Enhancing Access and Awareness

School-based Physical Education

- Formalize the Comprehensive School Physical Activity Program (CSPAP) and develop a systematic approach to continually evaluate changing needs of the school.⁴
- Utilize the CSPAP to provide physical education resources and physical activity opportunities to students that continue to be engaged in remote learning.⁴
- Organize the physical education class so that at least 50% of the class and instructional time is devoted to moderate to vigorous physical activity, with standards-based outcomes and goals.
- Continue online efforts that were used to deliver physical education lessons and exercise during the pandemic and leverage ways to offer physical education/activity opportunities during times when school is not in session, such as semester and holiday breaks. Online or distance learning is not new, as the National Center for Education Statistics stated 21% of elementary and secondary schools offered courses online in 2017-18.⁵
- Research available online physical education curriculum (e.g., Sanford *fit*; ACE Operation Fit Kids) and resources (e.g., YouTube videos) of which many were created by physical educators around the world during the initial COVID-19 switch to remote learning and remain available and accessible for anyone to utilize.^{6,7}
- Utilize mobile technology (e.g., wearable technology, physical education Apps) to examine and assist students' learning of physical activity and fitness.

- Maintain the focus on regular physical education and physical literacy but begin to transition physical education into activities that can be done outside of the classroom and school day.
- Structure aspects of physical education on enjoyment and inclusivity and decrease emphasis on competition.
- Expand adapted physical education programming and provide certified and trained staff to deliver appropriate instruction.
- Implement proper safety and hygiene practices utilized during COVID-19, as well as implement appropriate ventilation (HVAC) in gymnasiums, locker rooms, and indoor teaching stations.

School-based Physical Activity

- Explore ways to be more flexible with seating during classes. Options such as standing desks or fitness balls clearly offer opportunities for more movement but may not be economically feasible.
- Allow students to stand up more frequently or arrange desks in a way that encourages movement in the classroom. These are cost-free ways of fostering physical activity in students and can serve as an introductory step for teachers to incorporate movement in their classrooms.
- Incorporate small environmental modifications like playing music as students transition between class periods to encourage more movement and add small bouts of physical activity to the traditional school day.
- Create activities and provide resources including equipment that can be done as individuals, or in two person groups as traditional playground equipment becomes no longer age-appropriate. Equipment and resources for middle school youth are important, thus including more equipment-based (e.g., balls, music) needs are great options to encourage more physical activity. Additionally, appropriate clothing for physical activity becomes even more important for middle school youth. Items to provide include shoes, well-fitting sports bras, and tops.
- Provide opportunities for physical activity during after school programs or holiday breaks. These may include some of the virtual alternatives developed during the COVID-19 pandemic.
- Foster an active environment and a culture of physical activity inside and outside the classroom.
- Encourage active transportation (e.g., walking or biking) to and from school. This may include establishing Safe Routes to School or developing Walking School Busses and providing appropriate storage space for various modes of active transport.^{8,9}
- Provide both competitive and non-competitive team sports to ensure mass youth participation across abilities, genders, and sociodemographic categories. Focus on keeping “fun” in the game.¹⁰

Empowering Stakeholders

School-based Physical Education

- Consider the middle school youth as a stakeholder and utilize their voices for developing appropriate curriculum.
- Improve professional development by providing opportunities for teachers so they are better able to provide quality physical education and physical activity opportunities through a variety of different platforms and formats. For example, school districts should consider professional development sessions on use of social media platforms, trauma-informed practices, incorporating active lessons into core curricula as well as cross-curricular collaborations which incorporate the physical education department and/or opportunities for student physical activity.

School-based Physical Activity

- Adopt policies that support implementation of the Comprehensive School Physical Activity Program (CSPAP) within the Whole School, Whole Community, Whole Child (WSCC) model.^{4,11}
- Offer mid-day physical activity breaks and allow middle school youth to choose their activity - yoga, walking, dancing, or meditation. Encouraging and supporting youth to engage in physical activity on their own assists in addressing their intrinsic motivation.
- Translate physical activity messaging learned at school to family-level activities that can be done at home.
- Explore ways to allow middle school youth to become more civically engaged in addressing the physical activity needs of a community.
- Consider the middle school youth as integral members of the community who will both use and help carry out efforts to build partnerships in the community. Their input should be incorporated to ensure a greater likelihood for success.

Building Partnerships/Collaborations

School-based Physical Education

- Establish partnerships with Faith-based organizations to assist in virtual learning centers when broadband and internet access is poor.
- Investigate nearby universities/colleges that may assist or offer home-school youth with regular, structured physical education opportunities.

School-based Physical Activity

- Develop meaningful collaborations across NPAP sectors (e.g., Healthcare, Business and Industry, etc.).¹ These types of meaningful partnerships allow middle school students to become more civically engaged in addressing the physical activity needs of a community.

- Partner with community recreation centers in efforts to develop and formalize shared-use agreements for indoor and outdoor spaces.
- Establish partnerships with local healthcare systems in order to school-based health centers (SBHC) to address disparities in health care access, transportation, and other determinants of health. In addition to addressing fundamental healthcare needs, SBHC's can be strong allies in preventative behavioral health initiatives to address physical activity behaviors.¹²
- Support scheduling more activities into the daily routine of middle school grades, including online physical education changes and activity breaks that often occur in elementary schools.
- Maintain both intramural and extramural sports. Encourage participation and keep the level equitably accessible to all youth.

Home

Home is not currently a sector within the National Physical Activity Plan, resulting in little guidance for how parents and families can be targeted to help increase child and adolescent physical activity levels. Parents can make physical activity a priority and encourage their children to be active through positive messaging, modeling, encouragement, and opportunities for physical activity within the home. This activity can include active transportation, chores, social-media challenges, and active volunteer opportunities in addition to more traditional physical activities. The relationship between physical activity and mental health may be particularly important during the middle school/adolescent time period and youth should be encouraged to participate in physical activity that they find enjoyable and fulfilling.

During COVID-19, parents played an important role in support of and participation in physical activity thus parental encouragement and co-participation may be a new avenue to promote physical activity.¹³ Additionally, parents should be encouraged to develop a network of neighbors and friends that can also support physical activity and be aware of opportunities for physical activity offered within their broader community.

COVID-19 spurred a large increase in new online resources for physical activity, many of which can and should be tailored to youth this age group. Families who experienced layoffs or gaps in work may see a reduced ability to participate in pay-to-play organized sport and so may need to support physical activity more at home.

Enhancing Access and Awareness

- Create a “pod” model for physical activity outings within the neighborhood. Many families created pods or extended bubbles to allow children to safely play with friends during COVID-19 and can still be utilized post COVID-19.
- Arrange a list of potential families/other adults that can be called upon when parents are unavailable to supervise outings such as hiking or biking but be sure to update this list as youth make new friends or develop new hobbies and related social systems.

- Improve or maintain access to remote resources as adopting distance, hybrid, or home-based learning may become a new option. It is possible to find direct access to free, open-source information related to health, physical activity, nutrition, sleep, and screen time.
- Encourage family involvement in physical activity but know that this does not have to be the whole family all together all at once. Encourage activity with siblings, a parent, or other extended family. Youth may feel disconnected from parents once they return to school and parents return to work. Physical activity performed with parents and extended family members may help to maintain the connections fostered during COVID-19.
- Support endeavors that also include physical activity such as trash pick-up or meal delivery programs as this age group is often particularly interested in social awareness or volunteer activities.

Empowering Stakeholders

- Illustrate confidence, as the parent/caregiver, in physical activity and encourage your middle schooler's physical activity with you or on their own.
- Explore new resources in the community for physical activity including trails and greenways, sports leagues, and parks and support youth in maintaining new hobbies and interests that were developed during COVID-19 lockdowns.
- Encourage youth to be active throughout the day including both outdoors and indoors through activities such as dancing, walking, yoga, biking, hiking, outdoor play, non-competitive activities, and gardening.
- Allow or encourage physical activities with peers as middle school youth tend to shift their main influence on their behaviors from parents to peers.
- Utilize social media or other emerging technologies that promote physical activity that focus on middle school aged youth.
- Advocate for increased support for low-cost physical activity programming provided by schools and community partners.

Building Partnerships/Collaborations

- Include parents on school wellness committees.
- Market and promote outside environments (greenways, parks, playgrounds, trails, etc.) as they offer many opportunities, often for free physical activity.
- Encourage cities/towns to implement car-free zones that were developed during lockdowns to give people more spaces to be active.
- Support community partnerships to provide broadband internet to low-income and rural residents. These partnerships will help to address disparities in internet access that could reduce the ability of children and youth to engage in physical activity. Promotions offered by phone companies to provide hotspots and improved access during the pandemic should be modified to find ways to improve access long term.

- Contact healthcare providers and encourage them to discuss physical activity and its associated benefits with parents during regular well-child visits and provide structured programming and/or support for interventions at home.
- Collaborate with school districts and/or recreation facilities to support physical activity that can occur at home (via online or other technology).
- Create opportunities that offer free or reduced fees for youth sports (increased provision of intramurals) or other after school programs.

Community

Neighborhoods and rural versus urban environments play a role in physical activity participation in youth. The community may include facilities such as fitness centers, parks and recreation departments, greenways, hiking trails, and spaces to be active outside, including neighborhoods. In fact, engaging in outdoor physical activity is encouraged for children and adolescents.¹⁴ During COVID-19, opportunities to be active changed and reliance upon alternative areas such as sidewalks, greenways, trails, to be active have become vital. Post COVID-19, these areas may be great new ways to add in physical activity.

Enhancing Access

- Establish shared use agreements to allow public use of school yards, playgrounds, and athletic fields that can be used for unstructured free play. School districts or community recreation centers can develop shared use agreements that can formalize the partnership and demonstrate a commitment to promoting physical activity.
- Create built environments that provide access to green spaces and trails.
- Design communities that encourage active transport and develop strategies to engage middle school aged youth to actively commute to everyday destinations (e.g., school, sports). Ideas include designing crosswalks in busy intersections or near schools and implementing artistic elements on crosswalks and sidewalks to encourage physical activity.
- Utilize Complete Streets policies to encourage active transportation.¹⁵
- Encourage school districts to participate in Safe Routes to School.⁸
- Develop culturally relevant and applicable unstructured physical activities for this age group.
- Highlight outdoor spaces available for physical activity within the community by creating resource maps of greenways and trails and other areas that provide open spaces for recreation.
- For healthcare organizations with their own health insurance plans, offer a reduction in premiums as an incentive to participate in and track physical activity.

Empowering stakeholders

- Create middle school specific physical activities that can occur within the community or neighborhood. Physical activities for middle school youth should be those where they

feel they are within their level of ability, or use “beginners’ class” language to appeal to those with limited experience in athletics or with obesity obstacles.

- Address the income disparity in youth athletics/club sports and work to include youth from low-income families which may include increase financial scholarships for underrepresented youth or offering grants for costly equipment, i.e. hockey skates, football padding.
- Focus on hiring certified professionals and require/provide access to certification programs for all volunteers, employees, officials, and coaches. Coach and mentor training should focus on holistic health (including mental health) rather than competitive performance or weight management to avoid additional stigma (particularly for children with obesity, disabilities, and even girls (who are susceptible to decreased physical activity at this age).¹⁶ Have emergency and infectious disease plans in place and communicated and understood by all staff.
- Encourage healthcare providers to recognize physical activity as an intervention for overweight pediatric patients and encourage all young patients, not just those at high risk, to be more physically active at regular wellness visits and primary care.
- Support healthcare providers in implementing the Family Nutrition and Physical Activity screening tool to all well child visits.¹⁷
- Support standardized patient messaging with healthcare providers at every clinic visit to endorse the importance of healthy behaviors and promote physical activity strategies for all levels of ability. This may involve the healthcare provider to prescribe aerobic activity and muscle-strengthening exercises for patients at higher risk of developing diabetes or obesity and track patient outcomes in medical record.
- Request healthcare providers to provide patient education materials to educate patients and caregivers about the benefits of physical activity and exercise through printed and digital opportunities. This would include information about everyday activities and the benefits of physical activity, including the potential to reduce risk of heart disease, diabetes, stroke, high blood pressure, and osteoporosis. Include recommended types of physical activity for each age group and modifications for all ability levels.
- Encourage the development of youth sport participation to be included in national level initiatives including Healthy People 2030 objectives.¹⁸

Building Partnerships/Collaborations

- Create shared use agreements as the proximity to a school in rural areas may be more accessible versus community recreation centers.
- Support Faith-based organizations to establish partnerships with organizations from other sectors to promote physical activity in a manner that is consistent with their values, beliefs, and practices. Integrate physical activity with already established programs (Sunday School, Vacation Bible School).
- Target local universities/colleges to help develop master plans for towns and cities that include development of policies and community design to support a physically active lifestyle.

- Encourage nonprofit health systems to fulfill the Community Health Needs Assessment (CHNA) of the 2010 Affordable Care Act with a comprehensive wellness program for youth and families aligned with community needs.^{19,20}
- Invest financially in a community health initiative or wellness program offered with healthcare systems that provides education and encourages youth to improve their health through physical activity and good nutrition. In lieu of a financial investment, healthcare organizations should at minimum align efforts with their community partners working to encourage physical activity through involvement in local health fairs and wellness events.
- Establish a multidisciplinary team which includes the healthcare system, community, and school to create comprehensive education for youth, including physical activity, nutrition, and mental health.
- Develop partnerships with healthcare systems. Health care systems should create partnerships with wellness centers/private health clubs/community health centers (YMCA) to enrich communities by offering families a wide range of health services. Health professionals can provide screening services and cooperate with fitness experts inside the centers to provide comprehensive physical activity opportunities for families. Parks and Recreation facilities can collaborate with Healthcare Providers in implementing Park Prescription programs.²¹
- Utilize technological platforms to complement existing youth sports programming and to enhance access when in-person sports participation is not an option.
- Consult parents and local healthcare professionals on the needs and activities of enjoyment for successful incorporation and engagement of youth with disabilities in physical education and sport. This may require pre-participation set up, staff coordination, and adaptive equipment.

Conclusion:

The COVID-19 pandemic revealed gaps in our physical activity resources and highlighted the need for collaboration across all sectors in order to provide appropriate physical activity resources to individuals of all ages. Both within and across various sectors, stakeholders must be encouraged to work together to improve equitable access to physical activity regardless of location, economic position, or ability level.

- Communities and schools must work together to develop shared use agreements to increase access to physical activity resources.
- Universities must collaborate with their surrounding community to support master plans that include policies and community design that support an active lifestyle.
- Schools and health care systems must work together to develop and enhance school-based health centers.
- Health systems must collaborate with wellness centers, community centers, and private health clubs in their community to link patients to resources in their neighborhoods.
- Community partnerships must support parents who are working to provide resources to their children through improved broadband internet service and safe and accessible parks, greenways, playgrounds, and trails.

References

1. National Physical Activity Plan. <https://www.physicalactivityplan.org/index.html#>. Accessed February 12, 2021.
2. Physical Activity Guidelines for Americans. <https://health.gov/our-work/physical-activity/previous-guidelines/2008-physical-activity-guidelines>. Updated July 24, 2020. Accessed February 18, 2021.
3. Strong, W B, Malina, R M, Blimkie, C J, Daniels, S R, Dishman, R K, Gutin, B, Hergenroeder, AC, Must, A, Nixon, PA, Pivarnik, JM, Rowland, T, Trost, S, & Trudeau, F. Evidence based physical activity for school-age youth. *The Journal of Pediatrics*. 2005; 146(6):732–737. doi: 10.1016/j.jpeds.2005.01.055
4. Centers for Disease Control and Prevention. Comprehensive School Physical Activity Programs: A Guide for Schools. Atlanta, GA: U.S. Department of Health and Human Services; 2013.
5. National Center for Education Statistics. https://nces.ed.gov/fastfacts/display.asp?id=372#PK12_enrollment. Accessed February 18, 2021.
6. Sanford fit. <https://fit.sanfordhealth.org/>. Accessed February 11, 2021.
7. ACE Operation Fit Kids. <https://www.acefitness.org/education-and-resources/lifestyle/blog/6611/operation-fitkids/>. Accessed February 11, 2021.
8. Safe Routes to School. <http://www.saferoutesinfo.org/>. Accessed February 10, 2021.
9. Walking School Bus. <http://www.walkingschoolbus.org/>. Accessed February 10, 2021.
10. Weis MR. (2000). Motivating kids in physical activity. *President's Council on Physical Fitness and Sports Research Digest*. 2000;3(11):3-8.
11. Whole School, Whole Community, Whole Child. <https://www.cdc.gov/healthyschools/wsc/index.htm>. Updated February 10, 2021. Accessed February 18, 2021.
12. School-Based Health Centers. <https://www.hrsa.gov/our-stories/school-health-centers/index.html>. Updated May 2017. Accessed February 11, 2021.
13. Moore SA, Faulkner G, Rhodes RE. et al., Impact of the COVID-19 virus outbreak on movement and play behaviours of Canadian children and youth: a national survey. *Int J Behav Nutr Phys Act*. 2020;17(85). <https://doi.org/10.1186/s12966-020-00987-8>
14. Tremblay MS, Gray C, Babcock S, Barnes J, Bradstreet CC, Carr D, Chabot G, Choquette L, Chorney D, Collyer C, Herrington S, Janson K, Janssen I, Larouche R, Pickett W, Power M, Sandseter EB, Simon B, Brussoni M. Position Statement on Active Outdoor Play. *Int J Environ Res Public Health*. 2015;12(6):6475-505. doi: 10.3390/ijerph120606475. PMID: 26062040; PMCID: PMC4483712.
15. Complete Streets Policies. <https://www.transportation.gov/mission/health/complete-streets-policies>. Updated August 24, 2015. Accessed February 10, 2021.
16. Russell-Mayhew S, McVey G, Bardick A., Ireland A. Mental health, wellness, and childhood overweight/obesity. *J Obesity*. 2012;281801. <https://doi.org/10.1155/2012/281801>
17. Family Nutrition and Physical Activity. <http://www.myfnpa.org/>. Accessed January 28, 2021.
18. Healthy People 2030. <https://health.gov/healthypeople>. Accessed February 12, 2021.
19. Community Health Needs Assessment. <https://www.cdc.gov/publichealthgateway/cha/plan.html>. Updated July 24, 2018. Accessed January 28, 2021.

20. 2010 Affordable Care Act. <https://www.hhs.gov/healthcare/about-the-aca/index.html>. Updated October 23, 2019. Accessed January 28, 2021.
21. James J J, Battista RA, Christiana RW. Developing a park prescription program for your community. *Parks & Recreation*. 2018;53(4):28-29.