PHYSICAL ACTIVITY ALLIANCE MOVE WITH US

Recommendations for Sports Across All Developmental Levels – K-12

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Introduction

The COVID-19 pandemic has halted most organized physical activity events, including youth sports, throughout the United States, further highlighting inequities seen in who can participate due to costs and access to facilities within the United States. Individuals from poorer communities, both urban and rural, have experienced greater rates of COVID-19 with increased rates of death, severe illness, and mental health crises. As resources return to families across the United States with children and youth returning to school and adults returning to work, physical activity and sports offer children and youth the opportunity to improve both physical and mental health, providing both immediate effects and positive developments throughout the lifespan. The National Physical Activity Plan provides physical activity guidance across multiple sectors of society, including the sports sector, recommending regular, moderate to vigorous physical activity across the lifespan. This paper details foundational sports and recreational activity recommendations for children and youth as they age from the elementary, middle, and high school levels as children and youth return to sports after COVID-19.

Youth Sports and COVID-19

Due to the impacts of existing structural inequities confounded by COVID-19, physical inactivity of children and youth has skyrocketed accompanied by a mental health crisis and an increasing number of families without basic needs. Anxiety, stress, and hardship are prevalent in children and their families across the United States. Meanwhile children and youth are asked not to play with large groups of friends. As a result, they are more inactive and socialize more through social media and online gaming environments. As COVID-19 health guidelines allow, physical activity through sports and recreational activities should be prioritized for children and youth, including, responsible and positive utilization of technologies to promote socialization, teamwork, physical activity, and physical literacy, with the needs of the child and their development placed as the centerpiece of the purpose of sport.

Elementary School

Elementary school is when children/ youth developmentally begin to display the skills necessary to participate in sports and is often the first exposure that children/ youth have to sport participation. Less than 10 percent of United States children meet the minimum recommendation,³ with higher physical activity found in smaller class sizes.⁴ School districts

have an opportunity to promote sport development and help children/ youth reach the recommended 30-60 minutes of daily physical activity by providing a variety of after school extracurricular sports and structured exposure to various sports through physical education. The development of physical literacy during free play that occurs on the playground before and after school and during recess is a key component to the development of successful sport skills as children age.⁵

Initial introduction to sports in elementary school has the potential to be accessible and equitable across socio-economic barriers. However, club, school, and community sports are not equal in the resources across the United States, with equipment and funding being of greatest need in lower socioeconomic areas.^{6,7} Rural and urban schools experience different challenges. The largest challenge for teachers is a lack of resources, with 60% of urban schools not having any money set aside as a physical education budget.⁶ However, success in children and youth attaining enough physical activity is not solely based on school funding, but also support from multiple entities including physical education teachers, principals, families, school boards, superintendents, parent-teacher organizations, the community, and community programs. Together these entities play a role in helping to integrate physical education, in-school physical activity, after-school physical activity, and after-school extracurricular activities.⁸

The popularity of beginning organized club sports in elementary school or earlier has become a market boom with detrimental consequences. Parents are willing to pay for early access to sports, assuming the earlier the better, to combat the risk of obesity and improve lifelong activity. However, this early access to sport is not centered around the athletic development model, and potentially could create more harm than good, with risk of overtraining, burnout, and early sport specialization. Overtraining and early sport specialization have been linked to increased risk of future injuries and early retirement from the sport. Single sport athletes are more likely to specialize at a younger age and undergo higher training volumes than team sport athletes, increasing the risk of injury. The increase in club sport participation also potentially furthers the divide between socioeconomic and social groups when some children and youth can access club sports easier than others. Athlete development in elementary school should follow the athletic development model which encourages discovering, learning, and playing with a focus on multiple sports/environments and not on the level of competition.

Healthy habits such as improving access and decision-making for good nutrition, advocating for their own wellness needs, and choosing to play instead of watching television start early in childhood. Further, parents who participate in sports or exercise are more likely to promote a positive experience for children and youth engaging in physical activity and decrease the risk of childhood obesity. Early exposure to sports should include fostering a healthy relationship with food, which begins in infancy and develops throughout the lifespan. Like and in complement to active participation in sport activity with a coach, children/youth who participate in the preparation of food are more likely to foster that healthy relationship with food and nutrition, as well. 14,15

Enhancing Access and Awareness

- Promote free play and limit organized sports until the age of 6, when it is developmentally appropriate to begin organized sports.¹⁶
- Decrease class sizes to less than 25 children to promote greater physical activity.⁴
- Encourage girls under the age of 8 to get involved in sports since girls are less likely to get involved at an older age. 16
- Expose elementary school children engaged in club sports to a wide breadth of sport, focusing on participation, access, and physical literacy for children/ youth in all socioeconomic categories.⁹
- Encourage children/ youth in elementary school to participate in multiple sports to enhance development across physical and emotional areas and limit the potential of early overuse injuries.¹¹
- Deliver programming in a manner that creates suitable entry points across ability ranges, such as utilizing technological devices to ensure that children/ youth of all ability levels are included.¹⁷ Video and audio-enabled devices such as phones and tablets can be used with adult supervision to promote socialization and physical activity.
- Provide sport opportunities in physical education, on the playground, or in communitybased programs that emphasize participation over competition and provide opportunities for all children/youth.¹⁸
- Design sports to encourage participation in all children/ youth as a means of promoting improved social skills and higher levels of lifelong physical activity.¹⁹

Empower Stakeholders

- Have elementary-aged children/ youth participate in the preparation of food, such as helping make a grocery list, choose a meal, and help pack for after school activities, with adults positively reinforcing healthy habits.^{12,14,15}
- Encourage children/ youth to actively participate in family activities, such as going to a
 park or playing outside, and to advocate for their own wellness needs.²⁰
- Follow CDC guidelines for all post-pandemic (COVID-19 or other infectious disease) safe sports participation, including in-person and virtual formats.²¹

Build Partnerships/ Collaborations

- Ensure students get nationally recommended levels of physical activity.
 - Have schools coordinate with physical education teachers, traditional teachers, and the community to help establish and improve the existing resources for elementary students to get enough free play and organized play time, potentially using technology for virtual classrooms or "brain breaks". This tactic may also help schools who do not have funding set aside for physical education classes.
- Make programs inclusive to all children/ youth.
 - Employ concerted effort and resources to involve children/ youth who are often excluded from sporting opportunities due to their race, socioeconomic status, gender/sex, and physical and cognitive abilities.^{22,23}

Middle School

Millions of middle school children/ youth are involved in organized sports in the United States.²⁴ School-sponsored sports usually start around the seventh grade and quickly progress to highly organized, competitive, win-oriented activities.²⁵ The early motivation to play sports depends on the individual, but can be attributed to influences of family members, peers, and the broader community.²⁶ While most children/ youth start sports around age 10 years old, the average length of participating in a sport is 2 years,²⁴ with many children/ youth, in particular girls, dropping out of all sports before high school. Middle school sports participation, in particular, is an opportunity for continuing the foundational play skills children/ youth are exposed to in elementary school, on the playground, after school, and in curriculum-based physical education.¹⁶ As children/ youth progress through middle school, sex/gender, maturation, sociodemographics, and physical abilities can become large barriers and result in **70% of children/ youth retiring from sport before the age of 13.**^{27,28}

Children/ youth of middle school age are entering and traversing puberty, undergoing hormonal and physical changes which may influence their athletic capabilities.²⁹ The good news is that participation in sports has many benefits for young boys and girls on and off the playing field, leading to the development of strength and coordination, improvements in physiologic health, a positive relationship with physical activity, teamwork experiences, and leadership opportunities.³⁰ Nutrition, sleep, and sports can also promote healthy behaviors and choices during middle school with positive lifelong effects.³¹

Concurrent to the biological changes, social relationships and societal influences play a role in children's reporting positive or negative experiences playing sports, with girls more susceptible to dropping out or quitting than boys. ¹⁶ While participation by girls in sports has increased since the enactment of Title IX, and society is more accepting of girls participation in sports, the fact that girls continue to drop out of sports six times the rate of boys indicates we still have a long way to go in reaching the goal of gender equity and equality in sports. ³²

Middle school is a critical time where physical coordination is challenged due to periods of rapid growth coupled with a developing nervous system.²⁹ Sports lends themself to be opportunities for inclusion of children/ youth of all genders, sociodemographic backgrounds and abilities, including children/ youth with mental and physical disabilities, but middle school is typically when these disparities widen.²³ Sports, for some, provide avenues to help fund college and private high school education in some cases, in essence chipping away at the existing uneven socioeconomic playing fields. However, the societal divestment in subsidized and school-based sports has resulted in increased club sports participation and competition level. This has resulted in early specialization, increased risk of injury, and increased burnout.³³ The shift to club sports also has the potential unintentional consequence of further widening the gap in access to middle school sports participation for children/ youth whose parents are unable to afford club fees, travel fees, and competition fees, hence decreasing lifelong participation in sports.^{34,35}

- Keep sports at the middle school level equitably accessible to all children/ vouth.²²
 - Provide school-provided uniforms that can be returned at the end of the season.
 - Ensure transportation to and from the school and sporting venue.
- Thread curriculum-based physical education through all grades of middle school and for children/ youth of all abilities.
- Include youth with disabilities in sports programs with appropriate and safe accommodations. Children/ youth with disabilities should be included with appropriate and safe accommodations and preferably with the incorporation of their peers.
 - Participation and enjoyment of sports both within physical education as well as during after school sports is just as important an experience for children/ youth with and without disabilities – to not only co-exist but work together.^{36,37}
- Determine food needs for practice and game days, focusing on healthy decisions and limiting food scarcities.
 - Schools should seek partnerships with local organizations or restaurants to sponsor team(s) snacks or meals if the school does not provide food for students with low incomes.
- Provide both competitive and non-competitive team sports to ensure mass youth participation across abilities, genders, and sociodemographic categories.
 - Keep the fun in the game.²⁵

Empower Stakeholders

- Determine caregiver drivers and goals to optimize partnership in healthy sports participation.
 - Develop messaging in alignment with best health recommendations and caregiver drivers.²³
- Empower coaches and educators to teach and model healthy hygiene and infectious disease or virus control ('mono' (mononucleosis), cauliflower ear, COVID-19, etc.) during sports activities.
 - Follow CDC guidelines for sports settings: Consideration for Sports.²¹
- Encourage participation in more than one sport to avoid overuse injuries, and injuries commonly seen among adult athletes, in middle school youth's maturing bodies by avoiding single sport specialization.^{16,29}
- Have emergency and infectious disease plans in place and communicated and understood by all staff.

Building Partnerships/ Collaborations

- Consult parents and local healthcare professionals on the needs and activities of enjoyment for successful incorporation and engagement of children/ youth with disabilities in physical education. This may require pre-participation set up, staff coordination, and adaptive equipment.
- Partner community facilities with community groups and sites to increase access, such as recreation centers, colleges with open-access facilities, the YMCA, an armory, etc. when you do not have the space or the facility to run practices.
 - Coordinate a schedule that works for the majority of the children/ youth and parents and transportation (sharing spaces).^{38,39}
 - Consider community center or club sports if the school district does not provide middle school sports, preferably ones that have access to, or are open to, receiving grant funding to assist with the families or kids that have needs.
- Utilize technological platforms to complement existing sports programming and to enhance access when in-person sports participation is not an option.

High School

The number of secondary student-athletes has nearly doubled since the 1970s. 40 The greatest contributor to this increase was Title IX, which required schools to expand opportunities for female student-athletes. From 1972 (the year Title IX was passed) to 1978, the number of high school girls playing school-sponsored sports increased nearly seven-fold to over 2 million from 300,000. 40 Just over half of all high school students in the United States report being involved in school-sponsored sports. 41 As of 2019, almost 8 million students participated in high school athletics. 42 As with all physical activity, sports participation in high school students positively affects the prevention of childhood obesity, adult chronic conditions, and risky behaviors that result in drug misuse, teenage pregnancy, etc. 43,44

Despite the increase in sports participation that resulted with the institution of Title IX, the 2018 annual National Federation of State High School Associations report noted that for the first time in 30 years, participation in high school sports declined nationwide. It showed participation numbers fell from 7,980,866 students — an all-time high — during the 2017-18 school year to 7,937,491 in 2018-19, a decline of 43,395 participants. One of the main factors contributing to the decline in high school sports participation is single-sport specialization at a young age, which has resulted in fewer kids playing a second or third high school sport. Athletes instead choose to play on year-round club teams, with some club teams mandating that athletes play year-round if they want to keep their spot on the team. The onset of the COVID-19 pandemic and subsequent social distance protocols and marked loss of jobs and wages will undoubtedly further impact the change in numbers of youth participating in sports following the pandemic.

Although the numbers of participants may be on the decline, the benefits of sports participation have not changed over time. The value that kids get out of participating in high school activities is lifelong skills that are taught through athletics, including but not limited to the areas of leadership, socialization, team work, resiliency, goal-setting, healthy habits, community engagement, self-esteem, improved academic performance, interest in college, and career

advancement.⁴⁵ In light of the prolonged time out of play and off the field due to COVID-19 safety restrictions it is imperative that athletes are provided a gradual ramp up over four to eight weeks to allow for muscle and joint adaptation and to minimize the onset of injuries.

Enhancing Access and Awareness

- Maintain equitable access to high school level sports for all youth.
 - Provide school-supplied uniforms that can be returned at the end of the season.
 - Bus youth to and from school and sporting venues. If safety is an issue getting a child home safely, schools should look into funding options through the superintendent to provide transportation home and to/ from games -- or set up a parent or community buddy system.
- Thread curriculum-based physical education through all grades of high school if not in a competitive school-based sports.
- Include youth with disabilities in sports programs with appropriate and safe accommodations.
- Consider providing both competitive and recreational sports so all high school
 adolescents may participate in regular physical activity. Partner with community
 groups and sites, such as recreation centers, colleges with open-access facilities,
 the YMCA, an armory, etc. When you do not have the space or the facility to run
 practices.
 - Coordinate a schedule that works for the majority of youth and parents and public and/or private transportation.
- Assess the presence, maintenance, and equitable resourcing for girls' participation in school-based sports teams, regularly (locker rooms, coaching staff, access to weight room, etc.)
- Employ consistent academic eligibility requirements to assure minimal dropout rates among at-risk students.
- Determine food needs for practice and game days. If your school doesn't provide food for students of families with low income and/ or resources, seek partnership with local organizations or restaurants to sponsor team(s) snacks or meals.
 - Facilitate independent healthy food choices through regular meals.
- Employ multi-modal technological options for sports participation as needed, i.e. remote training via an audiovisual platform.

Empower Stakeholders

- Train coaches and educators to teach and model healthy hygiene and infectious disease/ virus control (mono, cauliflower ear, COVID-19, etc.)
 - Follow CDC guidelines for sports settings: Consideration for Sports.²¹
- Consult parents and therapists (physical therapists, occupational therapists, behavioral and mental health therapists and psychologists) on the needs and activities of enjoyment for successful incorporation and engagement of youth with disabilities in physical education, competitive and non-competitive team sports.

This may require pre-participation set up, staff coordination, and adaptive equipment.

- Promote continued physical education throughout maturation.
 - Consider delaying sports specialization (i.e., playing the same sport 8 months/year) until around the junior year of school to limit overuse and common adult injuries.
 - Follow recommended guidelines for youth sports specialization, specific to one's age and the sport that include off-season cross-training.
- Provide youth competitive, intramural, and recreational sports opportunities.
- Have emergency and infectious disease plans in place and communicated and understood by all staff.

Building Partnerships/ Collaborations

- Make collaboration between counselors and coaches a central aspect of any
 programming for student-athletes to optimize the benefits of the social and
 behavioral impact coaches have on scholar athletes and benefit the therapeutic
 counselor intervention and efforts.
- Ensure an athletic trainer or equivalently trained specialist (sports physician, sports physical therapist, etc.) is present at all contact sports events - including practices, if staffing is available.
 - During high school, athletes are maturing skeletal-wise. Though high school athletes often appear the size of an adult, their bones are not fully matured, hence they are not 'little adults.' Contact sports pose a scenario in which youth benefit from a professional with a specialized skill set on site.

The Influence of the Community on Sporting Participation

Two consistent patterns are visible in how the provision of athletic participation opportunities differ by gender and across urban, suburban, town and rural communities.

First, boys receive a larger proportion of athletic participation opportunities than girls in all communities (i.e., urban, rural, suburban). 46 Second, school size may also play a role. In rural schools, enrollments may be smaller than in larger urban and suburban schools, and there may be a smaller selection of extracurricular activities for young people to choose from than in urban or suburban schools. 46,47

Athletic participation across communities vary by the amount of economic resources available to the school. Schools that have greater economic resources will provide more athletic participation opportunities for all students but as we have already stated, boys are afforded more athletic participation opportunities than girls regardless of the economic viability of the school. This disparity is most apparent in urban schools who focus on providing football, basketball, and baseball opportunities.⁴⁶ With only a few sports available through school the

competition for the few existing spots heightens and there is a noted recruitment pipeline shifting to club teams; further limiting the amount of sports in which youth can participate.

Additionally, there have been some concerns over whether student athletes are adequately advised at the high school level on college eligibility, admission standards, and recruiting.⁴⁸ The relationship between counselor and coach is especially important because coaches play a major role in the personal and social development of high school athletes.^{49,50} However, in many school districts, coaches no longer are teachers who have regular contact with the members of their team during the school day. As a result, they may have little knowledge of the student-athlete's school performance and little contact with and minimal understanding of their players in any role other than that of athlete. Collaboration between counselors and coaches must be a central aspect of any programming for student-athletes. As youth return to school this relationship will also be essential to carrying out CDC COVID-19 guidelines for return-to-sport social distancing, spectator participation, and adherence to safety measures for infectious disease control, and resources for remote participation in sports training as needed.

Empower Stakeholders

- Expose youth in urban settings to sports beyond the familiar urban sports of football, basketball, and baseball.
- Implement (community, city, and state) concerted effort to ensure funding necessary to
 provide publicly accessible sporting options, so families of all socio-demographic
 backgrounds may participate in sports from swimming to ice skating.
- Abide by Title IX rules and regulations, assuring equitable distribution of funding and promotion of girls sports relative to boys.⁴⁷
- Follow CDC guidelines for sports settings: <u>Consideration for Sports</u>.²¹
 - o Contact sports, locker room capacity and usage to maintain physical distance.

Building Partnerships/ Collaborations College and Sports Counseling

- Establish a positive working alliance between counselors and the athletic triangle of athlete, parent, and coach.
- Provide regular resources and information to counselors who work with student-athletes to keep informed about the academic requirements of NCAA and NIAA (National Intercollegiate Athletic Association) colleges and their athletic environments.
- Have counselors regularly contact colleges to position themselves to gather and disseminate accurate information about the special services available to student-athletes and to assist in transition planning.
 - COVID-19 has kept many athletes from training and competing; several colleges have changed their recruiting budgets; and several schools may waive previous requirements or change them altogether.

Closure: Refocusing on the Youth as we Recover from COVID-19

To ensure equitable access to sports and resources for youth, policies must be set on the local, state, and federal levels. Upon creating, promoting, and implementing policy changes to promote physical activity in youth, it is important to consider sports and recreational activities throughout the developmental stages. Policy that includes sports participation should include focus on free play in elementary school and preferably through middle school, with consideration of limiting sport specialization until the junior year of high school. Equal access for all youth, regardless of gender, ability, skill level, or other sociodemographics, is needed to participate in a variety of sporting activities. Physical resources, including sport-specific equipment, uniforms and jerseys, and personal protective equipment, in addition to healthcare, nutrition, mental health, and remote technology resources should be prioritized as children resume in-person sports participation following the COVID-19 pandemic. Long-term support for schools, including physical education resources and interprofessional health policies should be supported to focus on the wellbeing of the whole child and protect against future problems stemming from the pandemic.

References

- 1. Shah K, Mann S, Singh R, Bangar R, Kulkarni R. Impact of COVID-19 on the Mental Health of Children and Adolescents. *Cureus*. 2020;12(8):e10051.
- 2. Czeisler MÉ, Lane RI, Petrosky E, et al. Mental Health, Substance Use, and Suicidal Ideation During the COVID-19 Pandemic United States, June 24-30, 2020. MMWR Morb Mortal Wkly Rep. 2020;69(32):1049-1057.
- Grao-Cruces A, Velásquez-Romero MJ, Rodriguez-Rodríguez F. Levels of Physical Activity during School Hours in Children and Adolescents: A Systematic Review. *Int J Environ Res Public Health*. 2020;17(13). doi:10.3390/ijerph17134773
- Kirkham-King M, Brusseau TA, Hannon JC, Castelli DM, Hilton K, Burns RD. Elementary physical education: A focus on fitness activities and smaller class sizes are associated with higher levels of physical activity. *Prev Med Rep.* 2017;8:135-139.
- 5. Cairney J, Bulten R, King-Dowling S, Arbour-Nicitopoulos K. A Longitudinal Study of the Effect of Organized Physical Activity on Free Active Play. *Med Sci Sports Exerc*. 2018;50(9):1772-1779.
- 6. McCaughtry N, Barnard S, Martin J, Shen B, Kulinna PH. Teachers' perspectives on the challenges of teaching physical education in urban schools: the student emotional filter. Res Q Exerc Sport. 2006;77(4):486-497.
- 7. Turner L, Johnson TG, Slater SJ, Chaloupka FJ. Physical activity practices in elementary schools and associations with physical education staffing and training. Res Q Exerc Sport. 2014;85(4):488-501.
- 8. Economos CD, Mueller MP, Schultz N, Gervis J, Miller GF, Pate RR. Investigating best practices of district-wide physical activity programmatic efforts in US schools- a mixed-methods approach. *BMC Public Health*. 2018;18(1):992.
- 9. Gould D. The professionalization of youth sports: it's time to act! *Clin J Sport Med*. 2009;19(2):81-82.
- 10. Maffulli N, Longo UG, Gougoulias N, Loppini M, Denaro V. Long-term health outcomes of youth sports injuries. *Br J Sports Med.* 2010;44(1):21-25.
- 11. Pasulka J, Jayanthi N, McCann A, Dugas LR, LaBella C. Specialization patterns across various youth sports and relationship to injury risk. *Phys Sportsmed*. 2017;45(3):344-352.
- 12. Foster C, Moore JB, Singletary CR, Skelton JA. Physical activity and family-based obesity treatment: a review of expert recommendations on physical activity in youth. *Clin Obes*. 2018;8(1):68-79.
- 13. Brown CL, Perrin EM. Obesity Prevention and Treatment in Primary Care. *Acad Pediatr.* 2018;18(7):736-745.
- 14. Chen Q, Goto K, Wolff C, Bianco-Simeral S, Gruneisen K, Gray K. Cooking up diversity. Impact of a multicomponent, multicultural, experiential intervention on food and cooking behaviors among elementary-school students from low-income ethnically diverse families. *Appetite*. 2014;80:114-122.
- 15. Wright W, Rowell L. Examining the effect of gardening on vegetable consumption among youth in kindergarten through fifth grade. *WMJ*. 2010;109(3):125-129.
- Logan K, Cuff S, COUNCIL ON SPORTS MEDICINE AND FITNESS. Organized Sports for Children, Preadolescents, and Adolescents. *Pediatrics*. Published online May 20, 2019. doi:10.1542/peds.2019-0997

- 17. Kiuppis F. Inclusion in sport: disability and participation. Sport in Society. 2018;21(1):4-21.
- 18. Bailey R. Physical education and sport in schools: a review of benefits and outcomes. *J Sch Health*. 2006;76(8):397-401.
- 19. Eime RM, Young JA, Harvey JT, Charity MJ, Payne WR. A systematic review of the psychological and social benefits of participation in sport for children and adolescents: informing development of a conceptual model of health through sport. *Int J Behav Nutr Phys Act.* 2013;10(1):1-21.
- 20. Pate RR, Dowda M. Raising an Active and Healthy Generation: A Comprehensive Public Health Initiative. *Exerc Sport Sci Rev.* 2019;47(1):3-14.
- 21. CDC. Community, work, and school. Published January 1, 2021. Accessed February 13, 2021. https://www.cdc.gov/coronavirus/2019-ncov/community/schools-childcare/youth-sports.html
- 22. Kanters MA, Bocarro JN, Edwards MB, Casper JM, Floyd MF. School sport participation under two school sport policies: comparisons by race/ethnicity, gender, and socioeconomic status. *Ann Behav Med.* 2013;45 Suppl 1:S113-S121.
- 23. Shields N, Synnot A. Perceived barriers and facilitators to participation in physical activity for children with disability: a qualitative study. *BMC Pediatr*. 2016;16:9.
- 24. State of play 2020 the Aspen institute project play. Accessed February 14, 2021. https://www.aspenprojectplay.org/state-of-play-2020/introduction
- 25. Eitzen SD. Sport in Contemporary Society: An Anthology. 10th ed. Macmillan; 2012.
- 26. Messner M. *It's All for the Kids: Gender, Families, and Youth Sports*. University of California Press; 2009.
- 27. Nadeau B. 70% of Youth Sports participants drop out by age thirteen, CNN writes. Coach Up Nation. Published January 25, 2016. Accessed February 14, 2021. https://www.coachup.com/nation/articles/70-of-youth-sports-participants-drop-out-by-age-thirteen-cnn-writes
- 28. yellowbrick, View All Posts by. Pressure & Youth Sports Study. Published April 7, 2017. Accessed February 14, 2021. https://www.yellowbrickprogram.com/blog/pressure-youth-sports-study
- 29. Walters BK, Read CR, Estes AR. The effects of resistance training, overtraining, and early specialization on youth athlete injury and development. *J Sports Med Phys Fitness*. 2018;58(9):1339-1348.
- 30. Freitas DL, Lausen B, Maia JAR, et al. Skeletal maturation, body size, and motor coordination in youth 11--14 years. *Med Sci Sports Exercise*. 2016;48(6):1129-1135.
- 31. Hosker DK, Elkins RM, Potter MP. Promoting Mental Health and Wellness in Youth Through Physical Activity, Nutrition, and Sleep. *Child Adolesc Psychiatr Clin N Am.* 2019;28(2):171-193.
- 32. Silva DRP da, Werneck AO, Collings P, et al. Identifying children who are susceptible to dropping out from physical activity and sport: a cross-sectional study. Sao Paulo Med J. 2019;137(4):329-335.
- 33. Bell DR, DiStefano L, Pandya NK, McGuine TA. The Public Health Consequences of Sport Specialization. *J Athl Train*. 2019;54(10):1013-1020.
- 34. Post EG, Bell DR, Trigsted SM, et al. Association of Competition Volume, Club Sports, and Sport Specialization With Sex and Lower Extremity Injury History in High School Athletes.

- Sports Health. 2017;9(6):518-523.
- 35. Post EG, Green NE, Schaefer DA, et al. Socioeconomic status of parents with children participating on youth club sport teams. *Phys Ther Sport*. 2018;32:126-132.
- Wang L. Perspectives of Students With Special Needs on Inclusion in General Physical Education: A Social-Relational Model of Disability. *Adapt Phys Activ Q*. 2019;36(2):242-263.
- 37. Özer D, Baran F, Aktop A, Nalbant S, Ağlamış E, Hutzler Y. Effects of a Special Olympics Unified Sports soccer program on psycho-social attributes of youth with and without intellectual disability. *Res Dev Disabil.* 2012;33(1):229-239.
- 38. Young DR, Spengler JO, Frost N, Evenson KR, Vincent JM, Whitsel L. Promoting physical activity through the shared use of school recreational spaces: a policy statement from the American Heart Association. *Am J Public Health*. 2014;104(9):1583-1588.
- 39. Carlton TA, Kanters MA, Bocarro JN, Floyd MF, Edwards MB, Suau LJ. Shared use agreements and leisure time physical activity in North Carolina public schools. *Prev Med.* 2017;95S:S10-S16.
- 40. NFHS. High School Sports Participation Increases for 26th Consecutive Year. National Federation of State High School Associations. Published August 13, 2015. Accessed February 13, 2021. https://www.nfhs.org/articles/high-school-sports-participation-increases-for-26th-consecutive-year/
- 41. Koebler J. High school sports participation increases for 22nd straight year. *US News World Rep.* 2011;2.
- 42. NFHS. Participation in High School Sports Registers First Decline in 30 Years. National Federation of State High School Association. Published September 5, 2019. Accessed February 14, 2021. https://www.nfhs.org/articles/participation-in-high-school-sports-registers-first-decline-in-30-years/
- 43. Eitle D, Turner RJ, Eitle TM. The Deterrence Hypothesis Reexamined: Sports Participation and Substance Use among Young Adults. *J Drug Issues*. 2003;33(1):193-221.
- 44. Cardinal BJ. PCSFN Science Board Report on Youth Sports. Published online 2020. https://ir.library.oregonstate.edu/concern/defaults/3r0752570
- 45. U.S. Department of Health and Human Services, National Youth Sports Strategy. Washington, DC: US Department of Health and Human Services, 2019.
- 46. Sabo D, Veliz P. Progress without equity: The provision of high school athletic opportunity in the United States, by gender 1993-94 through 2005-06. *Women's Sports Foundation*. Published online November 2011. Accessed February 13, 2021. http://files.eric.ed.gov/fulltext/ED539975.pdf
- 47. Sabo D, Veliz P. The decade of decline: Gender equity in high school sports. *Ann Arbor, MI: SHARP Center for Women and Girls.* Published online 2012.
- 48. Figler SK, Figler HE. *The Athlete's Game Plan for College and Career*. Petersons; 1984.
- 49. Lee CC. An investigation of the athletic career expectations of high school student athletes. Pers Guid J. 1983;61(9). http://search.ebscohost.com/login.aspx?direct=true&profile=ehost&scope=site&authtype=c rawler&jrnl=00315737&asa=Y&AN=6463269&h=z4VY8fJVJDJmkCGpqRJzVhmH8zN0UE 7aqFsjmuxTbXMGOaU4qULztGIIKpbYzikYHnN5IJgp%2FICmNHpz%2B47T7w%3D%3D& crl=c
- 50. Smoll FL. Stress reduction strategies in youth sport. In: Sport for Children and Youths: The

1984 Olympic Scientific Congress Proceedings.; 1986:127-136.