



PCSFN Science Board Report on Youth Sports

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Chapter 1. Introduction

Purpose of this report

A healthy nation starts with healthy citizens, and participation in sports is one of the most powerful ways to promote healthy habits for a lifetime—not only for physical fitness but also for emotional well-being and social cohesion. The natural enthusiasm that children and adolescents (collectively referred to as “youth”) have for physical activity and play creates an ideal opportunity for encouraging sports as an integral part of their development.

In order to increase youth engagement in sports across all communities, particularly those with below-average sports participation and limited access to athletic facilities or recreational areas, the U.S. Department of Health and Human Services developed a comprehensive National Youth Sports Strategy (NYSS).¹ The NYSS provides a variety of opportunities and action items to unite the nation’s youth sports culture around a shared vision: that one day all youth will have the opportunity, motivation, and access to play sports, regardless of their race, ethnicity, sex, ability, or ZIP code.

Building on this charge, the Science Board Subcommittee (Science Board) of the President’s Council on Sports, Fitness & Nutrition (Council) has developed a report to equip the Council with a deeper scientific understanding of why youth sports matter and how to promote key features of the NYSS. The report is organized around four pillars, all of which are supported by current, interdisciplinary science: (1) making youth sports accessible; (2) optimizing the youth sports experience; (3) parenting, coaching, and mentoring youth; and (4) fostering lifelong participation and retention in sports.

Why youth sports matter

For youth, defined in the NYSS and in this report as those 6 to 17 years of age, sports participation contributes to healthy personal development, education, community building, and our nation’s culture.² The distinct societal benefits of sports, given how they capture people’s interest and imagination, include connecting people and fostering a sense of shared identity. The absence of sports during the COVID-19 pandemic has been

dispiriting for many, showcasing how important sports are to our national psyche.³

Sports can offer youth extensive benefits. In the context of public health, sports can facilitate the cognitive, emotional, physical, and social development of youth.⁴⁻⁶ Physical fitness, physical literacy, and the social skills acquired from participation in youth sports also promote active, healthy living in adulthood.^{7,8} Youth sports, when well constructed, delivered, and supported, can generate a lifelong passion for, and commitment to, sustained physical activity.⁹ This, in turn, can contribute to long-term physical and mental well-being.¹⁰⁻¹² Physical activity also lowers the risk of developing chronic diseases such as diabetes, heart disease, obesity, and depression in adults.⁸ With appropriate precautions, the benefits of physical activity can also be realized by youth with chronic medical conditions such as asthma, diabetes, overweight and obesity, and psychiatric disorders.¹²⁻¹⁴

For these benefits to be realized by all U.S. youth, sports must be:

- accessible to all;
- organized to meet youths' developmental needs;
- delivered by qualified leaders focused on education and safety; and
- structured to enable broad participation from childhood to adolescence and into adulthood.

This report expands upon these ideas to promote high-quality sports experiences in accordance with the vision of the NYSS and provides scientific evidence to equip the President's Council to implement the NYSS across America.





Chapter 2. Making Youth Sports Accessible

Introduction

Access is the doorway to youth sports. People need places to play and compete, and to feel welcomed and encouraged to participate. Access means more than just physical places, spaces, and equipment; it also encompasses economic, emotional, and social factors—all of which must be supported by appropriate policies and rules.¹⁵⁻¹⁷

The holistic benefits of sports for health¹⁸ and human development¹⁹ should be made widely available within and across communities.²⁰⁻²² Participation should not be limited to, or withheld from, anyone. Additional resources may encourage and support the participation of individuals living in lower income communities and individuals who are at risk for overweight and obesity.^{23,24}

Ensuring that youth have access requires considering the safety, fun, inclusivity, and developmental appropriateness in all sports and physical activities regardless of income, race and ethnicity, disability, or gender.²⁵⁻³¹

This chapter highlights four strategies aimed at making youth sports accessible. They include: (1) understanding contextual and cultural factors,

(2) ensuring that facilities and equipment are accessible for all, (3) paying attention to gender and sexuality, and (4) increasing resource-sharing partnerships.

Understand contextual and cultural factors

Understanding each community and the people within it is the basis for making informed decisions about access and opportunities. Contextual and cultural barriers that prevent youth from participating in sports are important to address. Potential barriers differ among communities and may include a lack of:

- safe, reliable, and affordable transportation;²⁰⁻²²
- safe, high-quality facilities and recreational areas;^{21,32}
- coaches who are skilled and trained in their specific sport(s) and responsible behaviors;²⁸
- options for sports and physical activity that are diverse, accessible, appealing, and safe for all youth in the community;^{27,33,34}

- adequate funding, so schools or leagues do not need to charge fees;^{23,35} and
- media coverage of adaptive sports^{36,37} and girls' and women's sports.³⁸

Removing barriers such as these within communities would likely improve the odds that youth sports programs are both accessible and sustainable for all.

Ensure facilities and equipment are accessible for all

One in five Americans lives with a disability, which can affect access to sports.³⁹ Access to sports facilities and programs promotes longevity, improves quality of life, and reduces health care costs for individuals living with a disability.^{25,40,41} The NYSS encourages the design and planning of facilities and activities such that equipment, play spaces, and transportation options safely accommodate youth of all ages and abilities.¹

Accessible facilities and spaces should be available in community and educational settings.^{42–44} Planning and construction can take into account accommodating people of all abilities.^{40,42,45} This

advanced planning can help prevent people from feeling neglected and unwelcomed⁴⁶ and is often more financially prudent in the long run.⁴³

An additional concern in planning for accessibility is how to handle emergencies and disasters. At different times, sports facilities and structures may lose their accessibility features (e.g., weather events, pandemics). This may introduce unforeseen barriers to accessing youth sports facilities or programming for those



with disabilities.^{47–49} Emergency preparedness planning that includes contingencies for accessibility can help ensure all youth have the ability to participate.

Pay attention to gender and sexuality

Barriers relating to gender and sexuality can prevent youth from consistently being active. Safety and inclusion can be enhanced by training coaches and by engaging and empowering stakeholders—including the youth themselves.^{30,50–53}

Gender issues have historically been, and remain, a distinct challenge in the world of sports.³⁸ Girls are less likely to participate in sports than boys.⁵⁴ One way to address this is to make sure that physical activity and sports opportunities are available and relevant for all.⁵⁵ Strategies to support and promote girls' sports participation include: Title IX policy enforcement,³⁸ paying attention to the manner in which girls' and women's sports are portrayed,⁵⁶ and increasing the number of female youth sports coaches.⁵⁷ Inviting women to serve as youth sports coaches, holding coaching clinics specifically for women, and developing co-coaching opportunities could all be used to address this need.⁵⁷

Those who identify as LGBTQ+ have unique concerns and lower participation rates in sports.^{58,59} Concerns include: policies that are trans-exclusive, sex-segregated sports teams, and personal privacy

and safety issues (e.g., bullying, harassment).^{51,60} Existing anti-discrimination policies can be examined and enforced to remove any barriers to participation.⁵⁹ Additional policies and practices aimed at maximizing participation, fostering eligibility and inclusivity, and preventing bias can also be considered to address this.

Increase resource-sharing partnerships

Increasing access to youth sports opportunities requires resources, including funding and space. Sharing play spaces, such as using school facilities and municipal park spaces for classes and sports leagues, is one way to improve affordability and increase access.¹⁷ These accommodations are often facilitated by shared-use agreements and have contributed to more physically active youth and families in communities.^{61–63} One study found that when school facilities were opened to the public, the number of youth who were physically active was 84 percent higher than in a comparable community with closed schoolyards.⁶²

Communication among stakeholders—including community leaders, parents, coaches, administrators, teachers, and the youth themselves—can help identify barriers to and facilitators for sharing resources and spaces.⁶⁴ Knowing the barriers and working together to overcome them can help ensure long-term, successful relationships and experiences for all involved.⁶⁵

For example, it has been found that in lower income communities, school principals state “fear of liability” as a top reason for keeping kids off school fields and courts after hours.¹⁶

State legislation that helps provide protection from lawsuits and that provides guidance on sharing resources is one approach designed to help young people find places to play in their communities.⁶⁶ Usage also increases when sports facilities are located in areas that are safe and accessible via walking, biking, and shared or public transportation.¹

Conclusion

Disparities in access to sports participation due to a variety of physical, emotional, social, and economic challenges can be addressed through multiple strategies. While there are common challenges and concerns across communities (e.g., privacy and safety), each community is also distinct. The aim should be to accommodate all within the community. To achieve this, each locality's context and culture should be understood, facilities and equipment designed with access in mind, policies that promote inclusion developed and enforced, and cooperative and strategic partnerships formed in an effort to maximize resources. These establish the foundation needed for youth to get the most out of their sports experience.





Chapter 3. Optimizing the Youth Sports Experience

Introduction

Whether youth benefit from sports depends largely on how the programs in which they participate are created and delivered. Parents and caregivers (collectively referred to as “parents”), coaches and teachers, health care providers, and others provide the context (i.e., environments, settings, situations) in which youth experience sports. Many of these adults, while well intentioned, may lack the knowledge, preparation, or skills to provide an optimal sports experience for youth. As such, they may turn to their own past experiences (positive or negative) or those of professional athletes to inform their programming. This often leads to sports settings that are developmentally inappropriate.

Youth benefit most when they are having fun in a positive learning environment. Adults sometimes lose sight of this, perhaps dreaming on the child's behalf of a college scholarship, Olympic medal, professional sports contract, or simply winning in the moment. But, when the context of sports includes too much pressure and intensity, the youth who need to grow and thrive can be harmed instead of helped.⁶⁷

The adults leading youth sports, therefore, can benefit from learning which behaviors, environments, settings, and situations are and are not safe, fun, inclusive, developmentally appropriate, and accessible. This may enable them to create and deliver positive youth sports experiences, and to model optimal behaviors for those in their charge.

This chapter highlights six strategies aimed at optimizing the youth sports experience. They include: (1) providing a range of sports opportunities for all ages and abilities; (2) focusing on fun and youth-driven goals; (3) encouraging sport sampling; (4) building a well-rounded set of basic movement skills; (5) prioritizing safety; and (6) establishing standards for training adult leaders.

Provide a range of sports opportunities for youth of all ages and abilities

To optimize the youth sports experience, a range of opportunities should be offered to encourage participation among youth of all ages and abilities.

These include diverse forms of structure (e.g., formal, informal), organization (e.g., individual, team), and competition levels (e.g., introductory, recreational, competitive).^{27,68–70} Such choice enables youth to discover what is most fun for them.



It is important to recognize that youth develop at different rates. Those who mature early will develop skills before those who mature late. Those who mature late, however, may become more skilled than those who mature early if they are encouraged to continue participating.⁷¹ Bio-banding (i.e., grouping youth on the basis of their estimated biological maturity rather than their chronological age for competitions or training) has emerged as a potential strategy to keep those who mature late involved.⁷²

Whether participating on a sports team or not, all youth should be encouraged to be physically active. This can be challenging at increasingly competitive levels.²⁷ During roster selection, the emphasis should be on fostering continued physical activity involvement so that youth do not feel eliminated permanently.⁷³ For those who do not make the team, a few encouraging words can help them understand areas for improvement, and/or they can be redirected toward new activities.⁷⁴

Focus on fun and youth-driven goals in sports

The stakes for young people have never been higher. As the extrinsic rewards linked to youth sports success have increased (e.g., travel, trophies), the market has responded to support the pursuit of those rewards.⁷⁵ No matter what the long-term goals for youth sports participation may be, having fun—especially during the formative experiences—is the fuel that ignites and maintains long-term commitment.⁷⁶

“Fun” is identified as the number one reason that 9 out of 10 youth play sports.⁷⁶ When youth are asked what they want from sports, they highlight the enjoyment that comes from feeling welcomed and included, trying their best, benefiting from positive team/coach dynamics, developing competence, and getting playing time.^{34,76,77} Unfortunately, adult administrators, coaches, and parents who design and deliver youth sports programs may reshape the experience to meet adult rather than youth needs. Modeling youth sports after adult, professionalized structures can eclipse the fun and play that appeal to youth and keep them involved.^{75,76}

Along with the “adultification” of organized youth sports has come the loss of backyard, “sandlot,” and pickup sports.⁷⁷ These types of youth-led sports are vital. Balancing sports participation across both organized and unstructured contexts reduces the risk of injury;^{78,79} builds stronger connections to the community;⁸⁰ creates healthier relationships with sports in general;⁸⁰ and contributes to the development of creativity and valuable life skills (e.g., communication, conflict resolution, empathy, leadership).^{5,81} While youth-led sports may appear less “productive” to adults, participation in sports outside of an adult-led experience provides youth with confidence and skills that they can carry over into organized sports settings.

Encourage sport sampling

Limiting participation to one physical activity or sport can contribute to boredom, frustration, and quitting. Therefore, youth should be given the opportunity and encouraged to try out a variety of physical activities and sports.^{82,83} This is referred to as “sport sampling.”¹ Sport sampling enables youth to learn the basics of sport, advance their movement skills in diverse contexts, and form physical activity habits.⁸⁴⁻⁸⁷

Exclusive concentration on one sport can also result in physical imbalances and injury.^{79,88} Engaging in a variety of physical activities rather than focusing on one activity helps to avoid this.^{1,89-92} Moreover, youth who participate in two or more sports per year report higher levels of exercise, more and better sleep, greater academic-related success, and lower participation in risky behaviors compared to their single-sport counterparts.⁹³

Build a well-rounded set of basic movement skills

Basic movement skills are the foundation for more advanced skills. With time and practice, competence and confidence increase.⁹⁴ This is key to youth having fun in sports and staying involved over time.⁹⁵⁻⁹⁷

These basic movement skills also become a part of one’s movement vocabulary, an important part of physical literacy for fitness and health.^{98,99}



Physical literacy includes the development of movement concepts (e.g., body awareness, spatial awareness) and diverse types of motor skills (e.g., balancing, catching, falling, jumping, kicking, lifting, skipping, hopping, running, swimming, throwing). Such skills, taught at the appropriate stage of development and in multiple contexts,¹⁰⁰ increase movement competence and confidence,¹⁰¹ both of which contribute to a youth’s desire to continue engaging in physical activity into adulthood.^{87,102,103}



Prioritize safety

In spite of their many benefits, sports do have inherent risks. Optimizing the youth sports experience and promoting lifelong retention requires minimizing risks including abuse, burnout, injury, overuse, and stress. To help mitigate risks such as these, parents can encourage sport sampling and participation in diverse activities—including those unrelated to sports. Youth sports program leaders at the team, organizational, and league levels can provide experiences that are guided by best practices in youth sports safety (see next page). These strategies can be shared with athletes, coaches, parents, health care providers, and sports program leaders.

Furthermore, program evaluations can include youth sports-related injury data (e.g., within teams, sports, leagues; a national database). This can help identify risk reduction strategies that are working; areas that need attention; and/or problematic behaviors, practices, or policies.¹⁰⁴

Safety checklist for youth sports

Athletes, coaches, parents, health care providers, and sports program leaders all play a role in creating safe youth sports opportunities. The following strategies are meant to provide the spectrum of how to help ensure the physical environment, personnel, and culture promote safety and injury prevention.

Ensuring a safe physical environment:

- Optimize accessibility and identify and eliminate hazards (e.g., broken equipment, uneven surfaces) in play spaces, gymnasiums, fields, pools, and other venues.[105-107](#)
- Offer sports-specific protective equipment that is age appropriate, well maintained, and properly fitted.[89,106,108-110](#)
- Minimize risk for abuse and maltreatment (e.g., not isolating one athlete with one coach).

Ensuring proper selection and availability of coaches, volunteers, and other personnel:

- Assess educational background and experience; provide professional development and training opportunities (e.g., American Sport Education Program); and verify certification, licensure, and/or registration requirements.¹
- Perform background checks for all adults interacting with youth.[1,111](#)

Optimizing prevention of and response to physical injury and illness:

- Require pre-participation evaluations of participants to identify conditions that may predispose youth to a higher risk of injury or illness.[112](#)
- Strive to have certified athletic trainers at practices and competitions to minimize and manage injury and illness.[113-115](#)
- Establish venue-specific emergency action plans and rehearse them at regular intervals.[116,117](#)

- Train coaches, officials, medical staff, and volunteers in the following:
 - Basic first aid
 - Cardiopulmonary resuscitation (CPR) and automated external defibrillator (AED)
 - Recognition and management of emergencies (e.g., heat illness, cardiac arrest, head and neck injury)[116-118](#)
 - Recognition and reporting of suspected maltreatment or abuse[5,119-122](#)
 - Recognition and management of, and guidelines for return to play in case of, concussion[123-126](#)
 - Age-appropriate training loads to minimize the risk of overuse injury[89-92](#)
 - Nutrition and healthy weight management strategies[127,128](#)
 - Recognizing and providing resources for disordered eating and promoting body positivity[129,130](#)
- Encourage sport sampling in order to reduce risk of overuse injury.[78,79,88-90,92](#)
- Incorporate neuromuscular exercises into training routines to reduce risk of lower extremity injuries.[131,132](#)
- Review injury patterns at regular intervals to identify problem areas and targeted strategies to reduce injury risk (e.g., equipment modifications, rule changes).

Optimizing the culture of safety and fitness:

- Promote fair play and enforce sports rules.[106-110,133](#)
- Train coaches and parents to model and promote healthy behaviors, eliminate hazing and bullying, fulfill athletes' need for autonomy and connection, and create positive environments that prevent burnout and distress.[5,34,89,119,121,122,134](#)

Establish standards for training adult leaders

Adult leaders play a crucial role in optimizing the youth sports experience. In light of this, teams, organizations, and communities can create standards for adult leaders—administrators, coaches, officials, and parents—to teach, model, and reinforce appropriate skills and behaviors. To ensure alignment with youth-driven goals and needs, these standards should be developed with input from the youth who participate.^{135–139} A supportive and positive youth sports atmosphere can enhance athletes' self-esteem and self-directed motivation, fortify athletes against performance anxiety, and promote lifelong participation.¹⁴⁰

Conclusion

Every American youth can enjoy and benefit from sports when provided with an environment that allows for and encourages the full range of activities, from those that are informal, youth initiated, and youth directed to those that are highly organized and managed formally by adult coaches and supervisors. To ensure success for all youth, adults should maintain an atmosphere of fun and create a positive learning environment. Safety must also be given priority. These actions are crucial to sustaining interest and enthusiasm at all ages and levels. Proper training and preparation of both professionals and volunteers who coach and mentor youth in sports will ensure that the context of sports, no matter the specific activity, fosters holistic health and fitness for a lifetime.





Chapter 4. Parenting, Coaching, and Mentoring Youth

Introduction

Participation in organized sports is often described as a catalyst for positive youth development.¹⁴¹ It is therefore essential that parents, coaches, and mentors establish and carry out developmentally appropriate sports experiences, and that they engage with athletes and one another constructively.¹⁴²⁻¹⁴⁴

This chapter highlights four strategies that parents, coaches, and mentors can use to enhance experiences, motivation, development, and retention across all sectors of youth sports. They include: (1) treating sports as education; (2) teaching inclusivity; (3) focusing on balance; and (4) rewarding outcomes that reflect the values of the communities, organizations, and families who support youth sports participation.

Treat sports as education

Humans tend to focus on the “here and now” rather than long-term, incremental change.⁷⁵ This can be seen in youth sports where parents, coaches, and mentors sometimes focus only on short-term markers of success, such as playing

time and winning.¹⁴⁵ In recent decades, youth sports have become more competitive, with adult mentors focusing on performance-related tasks rather than developmental outcomes.¹⁴⁶

Parents, coaches, and mentors can gain a healthy perspective by viewing sports through the lens of education. In both community and school settings, sports provide an opportunity to teach youth about behaviors that will enhance their physical, mental, and emotional health. Learning about topics such as teamwork, resilience, physical activity, nutrition, and sleep can help youth on and off the playing field.^{4,14,147-149} Toward this end, parents, coaches, and mentors can benefit from employing current best principles and practices, recognizing the importance of their own influence on youth, and modeling appropriate attitudes and behaviors. Examples include providing healthy food and beverage choices (including water);¹⁵⁰ avoiding restrictive play rules and overscheduling; keeping expectations and perceptions of competence realistic; offering encouragement and support; and monitoring eating, physical activity, and sleeping behaviors.^{103,151}



Teach inclusivity

A key lesson of sports is that they should be inclusive. Whether acknowledged or not, stigma, stereotypes, and misguided expectations can negatively influence youth sports and physical activity.^{152–154} Underlying biases may be explicit or implicit and may be directed toward youth in subgroups defined by race, ethnicity, socioeconomic status, weight/size, gender identity, sexual orientation, or disability.^{50,51,155–160}

It is important for parents, coaches, and mentors to recognize that their own conscious and unconscious biases may influence participation (e.g., pushing youth toward certain sports or positions and away from others).^{161,162} These biases often focus on current maturation and development; reinforce stereotypes; and fail to account for aptitude, interests, or personal motives. They can falsely shape expectations, drain enthusiasm, and cause youth to drop out of sports and avoid future physical activity.^{7,153} To lessen the potential effects of bias and develop physical literacy, it is helpful for youth to have the opportunity to experience a wide range of sports, as well as a wide range of playing positions within a given sport (e.g., infielder and outfielder in baseball or softball). Adults involved in the design and delivery of youth sports experiences are encouraged to be educated in cultural competence, which is defined as “a set of values, behaviors, attitudes, and practices within a system, organization, program, or among individuals,

which enables them to work effectively cross culturally.”¹⁶³ This can help them understand their own potential biases and how those biases affect others.¹⁶⁴

Focus on balance

Youth and their parents are being asked to dedicate greater amounts of time and money to fewer sports—and at younger ages—than ever before.¹⁴⁶ This trend, referred to as the “youth sports economy,” is fueled by social pressure not to fall behind, youth sports business models that rely on keeping athletes involved year round, and the false notion that more and earlier exposure to a sport speeds development and/or increases the chances of securing a collegiate scholarship or competing at an elite or professional level.¹⁴⁶ On the contrary, early sport specialization has been linked with higher rates of psychological burnout, overuse injuries, and dropout from participation, while failing to increase the likelihood of reaching an elite level in sport.^{5,92} In fact, 7 out of 10 Olympians report playing multiple sports in their youth, and nearly all believe this enhanced their development.⁹⁴

Another counterproductive aspect of the youth sports economy is overscheduling. Growth, development, and learning occur during periods of rest and recovery. Sleep plays a vital role in this process.^{165,166} Year-round and all-consuming sports are especially problematic.¹⁴⁷ Balance and downtime are needed and should be encouraged.⁵

Another benefit of multi-sport and multiple-setting participation is that



changing things up throughout the year (e.g., competitive to recreational, formal to informal, supervised to unsupervised) enables physical and psychological rest and recovery, exploration of new interests, and development of new social relationships. Participating in both organized sports and informal pickup sports has been linked to increased creativity and community building.^{80,81}

Reward outcomes that reflect values

As noted in the previous chapter on optimizing the youth sports experience, the most prominent reason youth participate in sports is to have fun. Despite this, “success” in sports is often defined by a narrow set of performance-related outcomes like skill acquisition, competition, and winning. While these are important aspects of the sports experience for youth, they should be balanced with the social benefits of participation.¹⁶⁷ When parents, coaches, and mentors assign value to performance-related outcomes, they socialize others to do the same.^{168,169}

It is important, therefore, to align adults' goals with the outcomes that youth value and desire. Youth's earliest experiences in sports are most often shaped by parents and novice coaches (who may be parents themselves). To (re-)define success, parents, coaches, and mentors can view sports as an educational context, teach inclusivity, and focus on balance. These efforts help to shape the sports-related values of families, organizations, and communities by placing an emphasis on sustainable enjoyment, health, and fitness for a lifetime.

Conclusion

Parents, coaches, and mentors are integral to ensuring that youth experience safe, fun, inclusive, developmentally appropriate, and accessible sports opportunities.¹⁷⁰ Adults can design and carry out youth sports programs that are fun; build competence and confidence; and foster the desire to continue in organized sports, physical activity, and free play from childhood through adulthood.¹





Chapter 5. Fostering Lifelong Participation and Retention in Sports

Introduction

Retention is a major issue in youth sports. Dropout rates from organized youth sports programs are high: about one-third of participants quit each year, and 70 percent of youth who start in sports programs are no longer playing by the time they reach adolescence.¹⁷¹ Youth sports program leaders and mentors can help young athletes and their families not only start playing, but also continue playing. Such support for ongoing participation is a crucial gateway to healthy physical activity behaviors that can last into adulthood.^{14,172}

Many models exist to support the advancement of youth sports participation. The Science Board has framed this section of the report around the American Development Model (ADM) (figure 1), which was developed in 2014 by the United States Olympic and Paralympic Committee.¹⁷³ The ADM covers the spectrum of youth sports, from novice to high performance, over a series of five stages. The fifth and final stage, Thrive & Mentor, is especially important, even for individuals who never participated in the earlier stages. In the fifth stage, the ADM

Figure 1. American Development Model



Source: United States Olympic and Paralympic Committee, 2014.

seeks to inspire people not only to engage in physical activity themselves but also to serve the next generation as youth sports coaches, mentors, officials, and/or volunteers.

The ADM's five stages outline developmentally appropriate guidance for sports participation. This chapter augments the ADM's recommendations to emphasize strategies for retention of athletes in recreational sports participation and for the development of athletes who want to compete.



While the ADM is structured sequentially, linear advancement from stage to stage is not a requirement. Recreational participation should be encouraged at each stage and throughout the life span. The Science Board underscores that long-term involvement and participation in physical activity are the most important goals.

Allow youth to discover, learn, and play

In the first stage of the ADM—Discover, Learn & Play—youth are given opportunities to explore, imagine, and create in varied settings and activities. The focus is on giving them a chance to enjoy the activity with their peers, to be a part of a group, and to discover and develop their unique abilities in a welcoming and accepting environment. Positive parental involvement, feelings of competence and recognition, affiliation with peers, and excitement all foster enjoyment and should be promoted.¹⁷⁴

First-stage retention recommendations:

- Focus on fun and motor skills development rather than winning.
- Offer multi-sport programming and encourage sport sampling and free play to

help youth develop higher levels of physical literacy and lower their risk of injury. Vary programs by season and allow participants to start and stop as their availability, interests, and needs change.^{175,176}

- Educate parents about what to expect as youth develop.
- After teams and activities are established, set participation days that align with the parents' schedules as opposed to the coach's schedule alone.⁷¹
- Consider including younger coaches who are skilled in the activity to serve as role models.

Give youth opportunities to develop and be challenged

In the second stage of the ADM—Develop & Challenge—youth are given opportunities to develop themselves and to experience challenges. Motivation increases when youth see their skills improve, creating a personal sense of accomplishment and potentially earning the respect of others. In this stage, youth take on more responsibility for their own development. Competitive excitement and recognition contribute to enjoyment during this stage and can provide the foundation for coach–athlete and parent–athlete interactions with youth.^{34,174}



Second-stage retention recommendations:

- Help young athletes and their parents understand age-appropriate developmental benchmarks.
- Encourage effort and development over outcomes. Provide age-appropriate and actionable feedback that reinforces improvement over winning.^{[177,178](#)}
- Encourage participation in multiple sports/activities and cross-training to reduce the risk of injury and burnout and ensure young athletes are active outside of a single club's sports program.^{[179,180](#)}
- Offer physical education experiences for youth where they can engage in a variety of sports and sport-related activities through models such as Sport Education, Teaching Games for Understanding, and Teaching Personal and Social Responsibility.^{[181-183](#)}
- Increase participation by limiting cuts, accommodating youth who mature late, and providing financial assistance to youth who do not otherwise have the means to participate.^{[184,185](#)}
- Provide social opportunities away from the activity or game itself to strengthen the bonds between team members and their families.

Provide opportunities for youth to train and compete

In the third stage of the ADM—Train & Compete—youth 13 years of age and older are provided with opportunities to train and compete in the sports they select. During this stage, youth want to succeed in competition, create friendships, and feel they are part of a peer group. Defining and reinforcing healthy, nonjudgmental attitudes about participation and “winning” are crucial, because players who feel successful are more apt to stick with sports.^{[34,186](#)}



Third-stage retention recommendations:

- Recognize that specialization will begin to occur in sports selection, positions (e.g., shortstop), or events (e.g., swim stroke/distance).
- Offer challenging opportunities for competition that are appropriate for the athlete's skill, level of athletic development, and competitive capabilities; combine with cross-training for balance and health.
- Systematically vary training, allow for rest time, and promote coach-athlete communication to decrease the risk of overuse injuries and burnout.^{[187](#)}
- Promote sports science concepts such as healthy diet and nutrition, strength and conditioning, and sport psychology to enhance performance both in sports and beyond.
- Promote team-building and leadership skills through socialization, friendships, and awareness of the mental health needs of other team members.^{[188](#)}
- Create experiences and learning opportunities within and outside of sports in which youth can engage in a range of activities that they enjoy in order to become well rounded, physically literate individuals.^{[189](#)}



Offer pathways for youth to excel in high-performance sports and/or to participate and succeed in diverse activities

The fourth stage of the ADM offers two pathways for youth 15 years of age and older: “Excel for High Performance” and “Participate & Succeed.” Currently, only about 54 percent of high school students report being on one or more sports teams.¹⁹⁰ The ADM’s two pathways provide options for all youth to remain active, regardless of their participation in a formal sports setting.

The “Excel for High Performance” pathway enables youth who are interested and qualified to pursue excellence in high-performance competitions, and to work with others to achieve individual and group success. The “Participate & Succeed” pathway fosters participation and success in diverse athletic activities for youth who prefer to focus on more informal activities and sports. This pathway enables youth to continue enjoying the health and social benefits of sports indefinitely. Both pathways are equally important and are not mutually exclusive. They may even be pursued simultaneously by a single individual athlete who chooses high-level competition in one sport while engaging less competitively in others. This kind of cross-training is recommended, as it can enhance overall health and performance. Alternatively, an athlete may initially choose one pathway and then later switch to the other.

Fourth-stage retention recommendations:

- Create an environment that enables youth to maximize their full competitive potential (Excel for High Performance) and also participate for health and socialization (Participate & Succeed).
- Develop diversified training programs that reduce injury rates and enable athletes to perform maximally for important competitions (Excel for High Performance)¹⁹¹ and that offer multi-sport opportunities in recreational environments (Participate & Succeed).
- Promote psychological health and sustained engagement by empowering youth to take ownership of the sports experience. Adults should listen to and act on the thoughts, concerns, and ideas generated by young athletes as they relate to performance and participation (Excel for High Performance, Participate & Succeed).
- Promote inclusivity through a sport-for-all approach, and challenge athletes to embrace opportunities to have a positive impact on others beyond sports by fostering egalitarian organizational values and ethics (Excel for High Performance, Participate & Succeed).
- Use certified coaches who have the training and experience needed for athletes to achieve competitive excellence (Excel for High Performance).



- Provide infrastructure in the form of facilities, leagues, and officials to ensure safe and organized competitions and access to youth sports opportunities (Participate & Succeed).

Instill habits that will inspire lifelong participation and foster mentoring

The fifth stage of the ADM—Thrive & Mentor—aims to instill habits that will benefit athletes for life and inspire them to model active living for others. Some may choose to give back to sports through coaching, officiating, and/or mentoring future generations to be the best they can be in sports and to enjoy the process of athletic development.

Fifth-stage retention recommendations:

- Offer opportunities to extend the experiences of youth sports through participation in adult recreation leagues, training opportunities that foster lifelong fitness, and mentoring in families and communities.
- Facilitate networking among alumni of youth sports programs and encourage them to be role models and ambassadors for sports teams, leagues, and organizations.
- Recruit and train past participants of all ages and genders to serve as volunteers or as paid part-time coaches and officials in youth sports.
- Encourage young people to consider careers in coaching or officiating.
- Engage alumni of youth sports programs to put their experiences to work in creating K–12 physical education experiences for youth, emphasizing physical literacy, socialization, and individual and societal well-being.^{192,193}

Conclusion

The ADM provides a framework to help youth develop fitness and excellence in themselves and others through diverse forms of sports participation experiences, starting from a young age. Retention requires a foundation in motor skills and physical literacy, progresses through multi-sport participation and cross-training for both competitions and fitness, and culminates in adults' continued participation and active mentoring. Psychological and social health improve when fun and teamwork are emphasized, which helps keep youth engaged and creates positive associations that endure.





Chapter 6. Summary

As this report demonstrates, taking steps to implement the NYSS will not only improve the youth sports landscape but can also have lasting, positive effects on the health, development, and well-being of youth in the United States. With informed leadership and supportive policies, doing so may also enhance the health of institutions, communities, and economies.¹

This report emphasizes the scientific basis for and importance of:

- ensuring inclusive access to facilities, programs, and coaching, regardless of ability;
- providing a positive sports experience that ensures enjoyment, physical literacy, sport sampling, and competition based on sound physical and emotional conditioning;
- selecting and training adults to plan, coach, and guide youth sports programs to safely and effectively provide these positive experiences; and

- instilling the skills—both physical and mental—that will enable youth to enjoy the full range of benefits of sports from a young age through adulthood, and to mentor future generations in those same healthy habits.

The recommendations of the NYSS and the Science Board seek to benefit individuals, organizations, and communities, and to inform and improve public policy. Council members have a unique role in amplifying these positive opportunities whenever they speak or write, and as they participate on social media.

Recommendations

In summary, everyone has a role to play in improving the youth sports landscape in the United States. This report builds on the opportunities and action items outlined in the NYSS, providing additional scientific support for how to make youth sports accessible; optimize the youth sports experience; support parent, coach, and mentor engagement; and foster lifelong participation and retention in sports.

Making Youth Sports Accessible

- Understand contextual and cultural factors.
- Ensure facilities and equipment are accessible for all.
- Pay attention to gender and sexuality.
- Increase resource-sharing partnerships.

Optimizing the Youth Sports Experience

- Provide a range of sports opportunities for all ages and abilities.
- Focus on fun and youth-driven goals in sports.
- Encourage sport sampling.
- Build a well-rounded set of basic movement skills.
- Prioritize safety.
- Establish standards for training adult leaders.

Parenting, Coaching, and Mentoring Youth

- Treat sports as education.
- Teach inclusivity.
- Focus on balance.
- Reward outcomes that reflect values.

Fostering Lifelong Participation and Retention in Sports

- Allow youth to discover, learn, and play.
- Give youth opportunities to develop and be challenged.
- Provide opportunities for youth to train and compete.
- Offer pathways for youth to excel in high-performance sports and to participate and succeed in diverse activities.
- Instill habits that will inspire lifelong participation and foster mentoring.

With this additional scientific foundation, the Council can better communicate why youth sports matter and how everyone can play a role in working toward the NYSS vision: that one day, all youth will have the opportunity, motivation, and access to play sports, regardless of their race, ethnicity, sex, ability, or ZIP code.



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