The purpose of this article is to provide information concerning sport specialization in youth sport (SSYS) for coaches to share with parents. In this article, youth sport refers to athletes ages 18 years old and younger and includes all levels of youth sport — recreational, developmental, competitive and super competitive. In the October 2010 issue of the Journal of Physical Education, Recreation & Dance, professionals from various sport disciplines explored several issues associated with SSYS (Landers, Carson, & Blankenship, 2010). In the feature introduction, athletes Lindsey Vonn, Michael Phelps and Mia Hamm were described as having specialized in their respective sports before the age of 10. In opposition to these examples, the authors countered with their own scientifically based observations (Table 1). Here is a summary of the findings on the efficacy of SSYS:

- Specialization in sport evolved from the privatization of sport and changes in parenting, and there is limited scientific research supporting its effectiveness (Coakley, 2010).
- Children who specialize too early fail to develop a strong base of fundamental motor skills conducive to later development and have the potential to retard participation in a healthy active lifestyle (Branta, 2010).
- It is the quality of instruction through good coaching, not the quantity that is most important in youth sport (Brylinsky, 2010).
- Although there are limited biomechanical benefits of SSYS, the hazards of overuse and reduced recovery time provided by some coaches are apparent (Mattson & Richards, 2010).
- The physiological effects of SSYS have rarely been examined. However, overtraining and the effects of fatigue, proper hydration and thermoregulation in young athletes are evident (Kalieth & Milesky, 2010).
- Sport psychologists have noted some benefits of SSYS for specific skill development; however, physical and mental burnout, loss of motivation and emotional stress are potential negative results (Gould, 2010).

The Privatization of Sport: A Social Conflagration

Sport specialization by youth has been linked to a combination of social and economical factors, one of which is the privatization of youth sport. According to Coakley (2009), today’s society has experienced a drastic increase in both single-parent families and families where both parents either elect or are forced to work outside of the home. These changes have motivated many parents to redefine the concept of a “good parent.” In response to a reduction in quality time with their kids, some parents have overcompensated by giving their children more structured activities outside of the home. With the combination of the antiquated attitude of “an idle mind (and body) is the devil’s workshop,” the increased fear of unsupervised play (Rosin, 2014), the amplified visibility of professional athletes, and a reduction in funds for many public school and nonprofit programs, the stage has been set for dramatic changes in youth sport. One of those changes is the privatization of sport.

In the past 50 years, youth sport has exchanged the playgrounds, parks and public schools for the world of private clubs and agencies. Although there is no exact way to deter-
mine numbers of participants (Kelley & Carchia, 2013), it is apparent that more youth ages 5 to 18 years old are playing sports in the private sector compared with the public schools. Coakley (2010) described this as the “institutionalization” of youth sport. These institutions typically foster athletic elitism, early identification and selection of skilled performers, and an emphasis on specialization. Typically, parents are in charge of the private clubs, which are rarely governed by the philosophies or rules of public agencies or schools. The club leaders depend on participants’ fees for operational expenses, and as costs increase, some parents find an elitist role in their children’s sport. That elitism has perpetuated early selection and specialization. Coakley (2009) labeled it the “performance ethic” or “a set of ideas and beliefs emphasizing that the quality of the sport experience can be measured in terms of improved skills, especially in relation to the skills of others, rather than imparting values” (p. 129).

The benefits of sport diversification (Table 2), or playing multiple sports, have been replaced by SSYS, and with this change, the concepts of “the best money could buy” and “more is better” developed. Adults have committed to the performance ethic in private clubs and have found they could introduce policies, guidelines and practices that reflected their personal biases. Rules such as academic gates, recruitment or residential guidelines, restricted length of seasons, or restricted number of games per season are now optional. The determina-

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<th>Table 1. Specialization in Youth Sports</th>
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<td><strong>Potential Benefits</strong></td>
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<td>Better coaching and skill instruction</td>
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<td>Increased skill acquisition</td>
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<td>Improved time management</td>
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<td>Enjoyment of sport and talent development</td>
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therefore, that as the numbers grow, private youth sport attracts a social obsession. It is understandable, across the country has become a family event, a financial com-

Concurrently, some parents have developed increased social involvement and identification with other parents traveling to the next event, summer camp or academy. Those with like mind sets have reinforced their peers with similar beliefs and behaviors related to SSYS. When combined with the expanded media exposure of sport celebrities, some parents have found a unique social circle in which to belong. Following their children’s teams across the country has become a family event, a financial commitment and, too often, a social obsession. It is understandable, therefore, that as the numbers grow, private youth sport attracts economical opportunist.
The competitive atmosphere intensifies, as does the pressure to commit to the sport for extended periods of time. Seasons get progressively longer, and perhaps a final jamboree or low-key tournament is initiated. Paid coaches from the upper levels of the pyramid now offer off-season camps, and traveling teams are introduced.

By age 12, competitive events and traveling teams are common in most clubs. The increase in competition requires tryouts and, too often, elimination (cuts) of lesser-skilled players. Of course, those who are cut are encouraged to continue in the club to hone their skills and try again next year. At the more competitive levels, some coaches have formal training and are paid a salary. The older teams’ numbers have been reduced by tryouts but have increased costs in the form of expensive uniforms, coaches’ salaries, access to better training facilities, and travel. With fewer numbers yet increased costs, the sources of conflict of interest keep increasing.

Along with cuts, other factors are contributing to a decrease in the number of older players. Approximately 50% of all kids drop out of sports by age 14 (Woods, 2011). Players who are cut rarely return, and other interests, injuries or poor coaching behaviors eliminate others (Stewart, 2013; Stewart & Taylor, 2000). The decrease in players and increase in costs create a fiscal dilemma for club administrators. To counter these trends, the only logical budgetary solution is to maintain and expand the pyramidal structure of the club. Club officers must maintain the number of younger children while increasing parents’ costs via longer seasons and more games. Six-week programs that started at a modest fee become three months at double the cost, then two seasons a year, and finally year-round participation or specialization.

These administrative and financial realities exist, and although it is not the role of the coaches to change them, it is their role to communicate all aspects of sport specialization to parents. It is also the coaches’ duty to address the following questions: What are the realities of college athletic scholarships? Does year-round participation actually achieve greater rewards later in a child’s sport career? And finally, what physical and psychological harm may result from SSYS?

### Probability of Scholarships

According to Malina (2010), many parents have unrealistic expectations in the pursuit of athletic scholarships for their children. When considering the probability of a son or daughter receiving an athletic scholarship to any university or college, the facts are clear. Depending on the sport and the gender of the athlete, the odds of getting an athletic scholarship are well below 10%. In fact, very few high school athletes continue to play in college, and even fewer receive any athletic financial aid. According to the National Collegiate Athletic Association (NCAA, 2014), only about 2% of high school seniors receive athletic financial assistance, and that assistance is often limited and constrained. Many parents spend more in a year on competitive youth sports than scholarship athletes receive in a similar period (Hyman, 2013). However, the pursuit of scholarships resonates with many parents, who often pressure their children to spend more time on sports than academics. The athletes and their parents fail to accept that even in the pursuit of scholarships, academic performance is as important as athletic achievements.

However, assuming that coaches will not be able to change the unrealistic expectations of some parents, they need to educate parents on the realities of athletic scholarships (Table 3). The more ethical sport scouting agencies list three considerations for high school athletes and their parents. First, they have

### Table 3. The Reality of Sport Scholarships

Most athletic scholarships are:

- only partial in nature. That is, they only cover some of the costs, yet those athletes have the same time and energy commitment as the athlete on full scholarship.
- one-year renewable awards based on the prior season’s performance and the ongoing academic record of the athlete.
- on average, about $11,000 per year at National Collegiate Athletic Association (NCAA) Division I institutions and much less at smaller schools
- highly related to grades in high school.
- dependent on continued academic progress toward a real degree. The NCAA now requires athletic departments to annually track, document and report athletes’ academic progress toward a valid academic degree.
- requiring coaches to restrict the athletes’ academic major and/or their ability to change majors once they enroll.
to find a program that has scholarships to offer. Most coaches have very limited scholarships annually because of NCAA limitations and current rosters. Because of this, many coaches split scholarships and create partial awards. Second, within any given year, coaches have specific needs for their teams. If a high school senior is a specialty player (e.g., a catcher, a goalie, a left wing) yet the team has three players in that specialty returning, there is no need to even apply. Finally, athletes have to be dedicated to selling themselves to the coach by being very talented and committed to being a full-time student-athlete. In summary, thousands of senior high school athletes graduate annually, but only a few hundred collegiate athletic scholarships are available. Most of those are only partially funded and cover far less than the actual costs of an education that could be extremely restricted by sport participation. So, if very good athletic skills are required to even be considered for a scholarship, won’t specialization improve that possibility? Well, maybe, but at what risk?

The Fallacy of Improved Performance

Tommy John, former big league pitcher, immortalized by the elbow operation that bears his name, turns away all inquiries to work one-on-one with young children in the off-season. ‘I could give thirty lessons a week at $100 a lesson during the winter – just to eight to twelve year olds. I refuse to do it . . . Those kids do not need to be playing baseball year round. What they (parents) do not understand, and will never understand, is it makes no difference whether you start at eight or eighteen. I can take a kid who has never pitched in his life until he is seventeen. By the time he is nineteen he will throw as well as or better than the kid who has been pitching since he was eight . . . and with less wear and tear on his arm.’ (Hyman, 2009, pp. 21–22)

As mentioned earlier, Michael Phelps specialized early and reaped many rewards in swimming. Rarely acknowledged, however, is that Michael was not the first or perhaps the best Phelps swimmer. He has two sisters, and both were excellent competitive swimmers. Hilary, the eldest, excelled at the butterfly but gradually lost all interest in participating in the sport. Whitney, the middle sibling, seemed certain to make the U.S. Olympic team as a 15-year-old in 1996, only to finish sixth in the trials. She had competed with serious injuries, and her career ended in so much disappointment and pain that she no longer swims, not even for pleasure. So in this case, only one of three children who “specialized” reaped any benefits from the experience, a fact hardly illuminated by those who advocate SSYS.

Lindsey Vonn, international and Olympic skier, like Phelps, began her athletic career early. But while she enjoyed success, her career caused significant family upheaval. At age 11, she and her mother permanently moved to Colorado to train at Ski Club Vail. Her two brothers and two sisters remained in Minnesota with their father. Vonn said she “missed all the traditional things of childhood like sleepovers, school dances, and making friends in a conventional way.” Halfway through her second season, the whole family moved to Vail. “Now all my brothers and sisters had left their friends for me. That was stressful on them. I felt so guilty,” Vonn said. Her skiing career ended in 2014 due to repeated injuries (Battaglia, 2014).

In contrast, the following are examples of other prominent professional athletes whose biographies exhibit sport diversification (Table 3):

- Peyton Manning noted that basketball, baseball and football were always part of his household, and he attributes his early athletic development to the shared family enjoyment of these sports. He believes his passion for football, in particular, stems from the fundamental lessons his father taught him.
- Michael Jordan became interested in sports early. However, it was baseball, not basketball, that was his first love. His father loved baseball, but Michael started to play basketball to follow in the footsteps of his older brother. As a sophomore, he tried out for the varsity basketball team but was not selected due to limited skills and size.
- Mia Hamm, former player on the U.S. women’s national soccer team, played many sports as a youngster in Alabama. Her father was in the military, which provided the opportunity to play a variety of sports in many countries. She was not introduced to soccer until the family lived in Italy.
- Abby Wambach, current U.S. women’s national soccer team leading scorer, starred in basketball and soccer in high school and did not specialize in soccer until her freshman year at University of Florida.

With the exception of Lindsey Vonn and Michael Phelps, all these athletes had diversity in their early athletic careers. And although Vonn and Phelps did specialize, every parent should recognize the effects on the athletes and their families. To put
these exceptional athletes’ careers in perspective, approximately 34 million young athletes ages six to 18 years old compete annually in all sports, yet there are fewer than 4,000 professional athletes in the United States (Malina, 2010) in any given year. Every parent should examine the real costs of SSYS, including the potential for serious health issues. Additionally, every coach at all levels should understand and communicate the realities of sport specialization.

**Potential Negative Outcomes of Specialization**

**Injuries**

In a position statement, the American Medical Society of Sports Medicine (AMSSM; DiFiori et al., 2014) stated that the benefits of youth sport are often negated by an overemphasis on competitive success. This often motivates young athletes and their parents to initiate high-level training at younger ages and leads to overuse injuries and athletic burnout. The members of AMSSM encouraged sport diversity in young athletes while highlighting the negative effects of sport specialization and overscheduling of games and training.

In his book *Until It Hurts* (2009), Mark Hyman presented three medical examples exhibiting the potential effects of overuse on young athletes:

- **Dr. Joe Chandler**, the orthopedic surgeon for the Atlanta Braves, has worked with such notable pitchers as Tom Glavine and John Smoltz. He became interested in comparing pitchers in the Little League World Series (LLWS) and Major League Baseball (MLB) and found that some young pitchers in the LLWS were throwing as many pitches in four to six innings as MLB players did in eight to nine innings. Since those observations, the officials of the LLWS have placed restrictions on pitch counts. However, according to Dr. Chandler, those restrictions are not enforced well and do not consider pitches thrown in warm-ups or practices.

- **Dr. Frank Jobe**, then orthopedic specialist for the Los Angeles Dodgers, performed the first Tommy John surgery in 1974. In this surgery, known as ulnar collateral ligament (UCL) reconstruction, the UCL in the medial elbow of the throwing arm — having become weakened, stretched, frayed or torn by overuse — is replaced with a tendon from elsewhere in the body. Originally, the surgery was performed only on older professional athletes, but now nearly 50% of the surgeries are performed on teenage athletes. Dr. Jobe’s recommendation was to ban curveballs for children younger than 14 years of age and to eliminate year-round participation in one sport.

- **Dr. John DiFiori**, head team physician for the University of California at Los Angeles athletics and member of the Scientific Advisory Board for the National Youth Sports Health and Safety Institute, has completed years of research on the effects of overuse injuries in children and adolescents. He has advised parents to encourage their children to participate in a diverse selection of physical activities. Eventually, children will select the sport and the degree of involvement that is best for them. That practice is far more physically, mentally and emotionally healthy for the young person than having the parents select the sport.

Orthopedic overuse injuries are not the only health issues related to SSYS. An overemphasis on sport perfection and performance has also been linked to excessive weight variations in athletes. Eating disorders have historically been linked to young girls and women in specific sports such as gymnastics and figure skating (Ryan, 1995), and ultimately, these disorders led to the reform of Olympic rules in both events. However, eating disorders are now diagnosed regularly in male athletes (Baum, 2006) where “making weight” is no longer restricted to men’s wrestling. It is not uncommon for some coaches, even in high school, to pressure their athletes to get bigger or to lose weight, depending on the sport. It is well established that uncontrolled weight variations in youth can result in many negative health issues and behaviors.

**Performance-enhancing drugs**

Ben Johnson, Lyle Alzado, Barry Bonds, Floyd Landis, Sammy Sosa, Mark McGwire, Alex Rodriguez, Manny Ramirez, Marion Jones, Jose Canseco and Lance Armstrong all are exceptional athletes who gave into the pressures of performance by allegedly using performance-enhancing drugs (PEDs). The relationship to SSYS warrants notice.

According to the Centers for Disease Control and Prevention (2014), roughly 3.2% of American high school students reported taking steroids without a doctor’s permission at least once in their lives. Considering that the results depended on
Table 4. The Risks of Sport Specialization in Youth Sport

- **Social isolation** due to restricted exposure to a variety of peers
- **Overdependence** on adults in highly regulated sport activities, thus losing any sense of self-control and autonomy
- **Burnout** in that they cannot keep up with the physical, emotional or cognitive demands of one overemphasized activity
- **Manipulation by adults in the youth sport environment via**
  - a blind faith in the system that often has other motives than youth welfare
  - negative social development because of selective preferential treatment and lack of self-control
  - warped ethical/moral development exemplified by adults who ignore or thwart rules by lying or cheating to gain an unfair performance advantage
  - excessive and unnecessary dietary modifications and/or chemical use to increase performance
  - the use of children as commodities or long-term investments
- **Increased injury** either through overuse or other poor coaching practices resulting in
  - compromised growth and development
  - discontinued lifetime involvement with physical activity

Source: Malina (2010).

Table 5. Recommendations for Parents

- Listen to your doctors (MD specialists).
- Demand mandatory coach training at all levels.
- Demand administrative oversight in private clubs:
  - Specify coaching behavior.
  - Require commitment to sportsmanship.
  - Demand financial ethics — money generated by an age group stays in that age group.
  - Eliminate practices that contribute to overuse and burnout:
    - length of season
    - number of games per 24-hour period
    - length of games and tournaments
- Remember, there is little to no institutional memory (a collective set of facts, concepts, experiences and know-how held by a group of people) in youth sport, especially private clubs.
- Eliminate the “more is better” mentality; more training does not equal better performance.

Table 6. Truths That Coaches Should Share with All Parents

- The **scarcity** of athletic scholarships
- The **real characteristics** and demands of athletic scholarships
- The **fallacy** that more practice, play and specialization is better
- The **injury rates** among year-round athletes of all ages
- The **burnout and dropout rates** of young athletes and their causes
- The **financial stake** that clubs have in year-round programs

self-disclosure and four states did not share their data, the numbers are probably even higher. That means that more than 640,000 teenagers reported some form of steroid use in 2012, or about 1 student in every classroom (Roberts, 2013). Since PEDs are not considered “recreational” drugs, increasing sport performance is a likely motive for use.

**Burnout**

Burnout is another serious issue (Hecimovich, 2004) in SSYS. The pressure to specialize in any sport exerts a great deal of physical and psychological stress on young athletes. If that stress becomes overwhelming, performance and, eventually, participation will decline (Malina, 2010). When young athletes fail to meet the demands of the important adults in their lives, their athletic identity is compromised. The enjoyment (fun) of participation is lost, often resulting in burnout and withdrawal from that sport (National Association for Sport and Physical Education, 2010).

Burnout in sport can also have lifelong implications. Russell and Limle (2013) found that early specialization in childhood led to a decrease in sport activity in adulthood. Parents who define athletic success in irrational or stressful measures can affect the children’s interests in sport and physical activity later in life. Children initiate sport participation because it is fun. The early form of “sport” is unstructured playtime or pick-up games at the park or gym played for enjoyment. When an activity, however, becomes a task where the focus is on performance and winning, fun can be diminished, burnout occurs, and retention rates drop. The aforementioned Phelps sisters are examples of this. When swimming stopped being fun due to either psychological stress and/or physical injury, their long, expensive careers were over.

**Conclusions**

In discussing the risks of SSYS, Malina (2010) described young athletes as pawns in a complex matrix. He identified the
structure of that matrix as being filled with numerous risks (Table 4). Unfortunately, in today’s society, it is only the successful athlete who receives most of the recognition and rewards. The fates of athletes who drop out, burn out or fail to achieve a championship or scholarship are rarely discussed. Yet, sport in today’s society is highly valued and plays an ever-expanding role. All adults involved in youth sport bear the responsibility of sharing the negative results of overemphasis and specialization. In the rare occasions that specialization results in a scholarship or a professional career, parents of young athletes must know the risks and the costs. This article supports the work of Malina (2010) and other noted professionals in that it is the responsibility of sport scientists and coaches to avoid the negative outcomes of SSYS. One method to achieve this is to ensure that parents are well informed (Tables 5 and 6).

References


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