

**Early Specialization in Youth Sports
Deciding What's Best for Your Child
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A few decades ago, the three-sport athlete in high school and college was a common occurrence. Playing a different sport during the fall, winter, spring and summer seasons was often the norm. Today, not only is the multisport high school and collegiate athlete a thing of the past, even the middle school and elementary school athlete is likely to be a single-sport specialist aspiring for success in a sport selected long before the young athlete has reached maturity. At younger and younger ages, athletes are now specializing in a single sport, often playing at a single position year round, sometimes on multiple teams in the same season, driven by adult coaches and parents at the expense of casual "pick up" games and the loss of backyard, neighborhood-oriented free play.

Early specialization involves more than simply playing a single sport. It includes three elements:

1. Playing a single sport at the exclusion of other activities
2. A total commitment, often playing virtually year round
3. Occurrence during the pre-pubertal years, essentially 12 years and under

While the level of competition and quality of the sports performances have often improved dramatically, they have done so at what many professional health organizations have judged as a substantial cost to the health and development of the young athletes. There are two distinct issues which are intertwined and sometimes confused with each other. First, there is the focus on a single sport often with training that targets on specific muscle groups while second, there is an increase in intensity often resulting in multiple daily practice sessions and frequent competitions minimizing the necessary periods of rest and recovery from that specialized training. The result is a well-documented pattern of overuse injuries and psychological burnout issues that can change the pattern of healthy child development and rob the youngsters of the joy of participating in an activity that they previously had sought out and enjoyed.

Intensity of training is an important characteristic of early specialization. Intensity can contribute directly or indirectly to the overuse injuries found so often with early specializers. Overuse can directly produce such problems as "Tennis Elbow," Osgood Schlatter Disease, "Little League Shoulder," and, in hockey goalies, pelvic problems, all of which stem from repetitive forces impacting developing muscles, ligaments and joints. However, intensity can also cause unbalanced development of muscle groups. Unbalanced development occurs in gymnastics, for example, where constant training on one side of the body with cartwheels and round offs produce "lat"¹ muscles on one side of back of the body that are larger than the other side. Such imbalance can be a major contributor to scoliosis (abnormal lateral curvature of the spine). Tumblers and high jumpers often have overdeveloped quadriceps muscles relative to the hamstring muscle. Such imbalance can result in muscle strains ("pulled" muscles).

Virtually all the major health and medical professional associations which deal with children's health and sports have issued position statements recommending against specialization prior to puberty and

¹ The latissimus dorsi muscle is a large, triangularly shaped back muscle that helps you do things like pull-ups, swimming and even breathing.

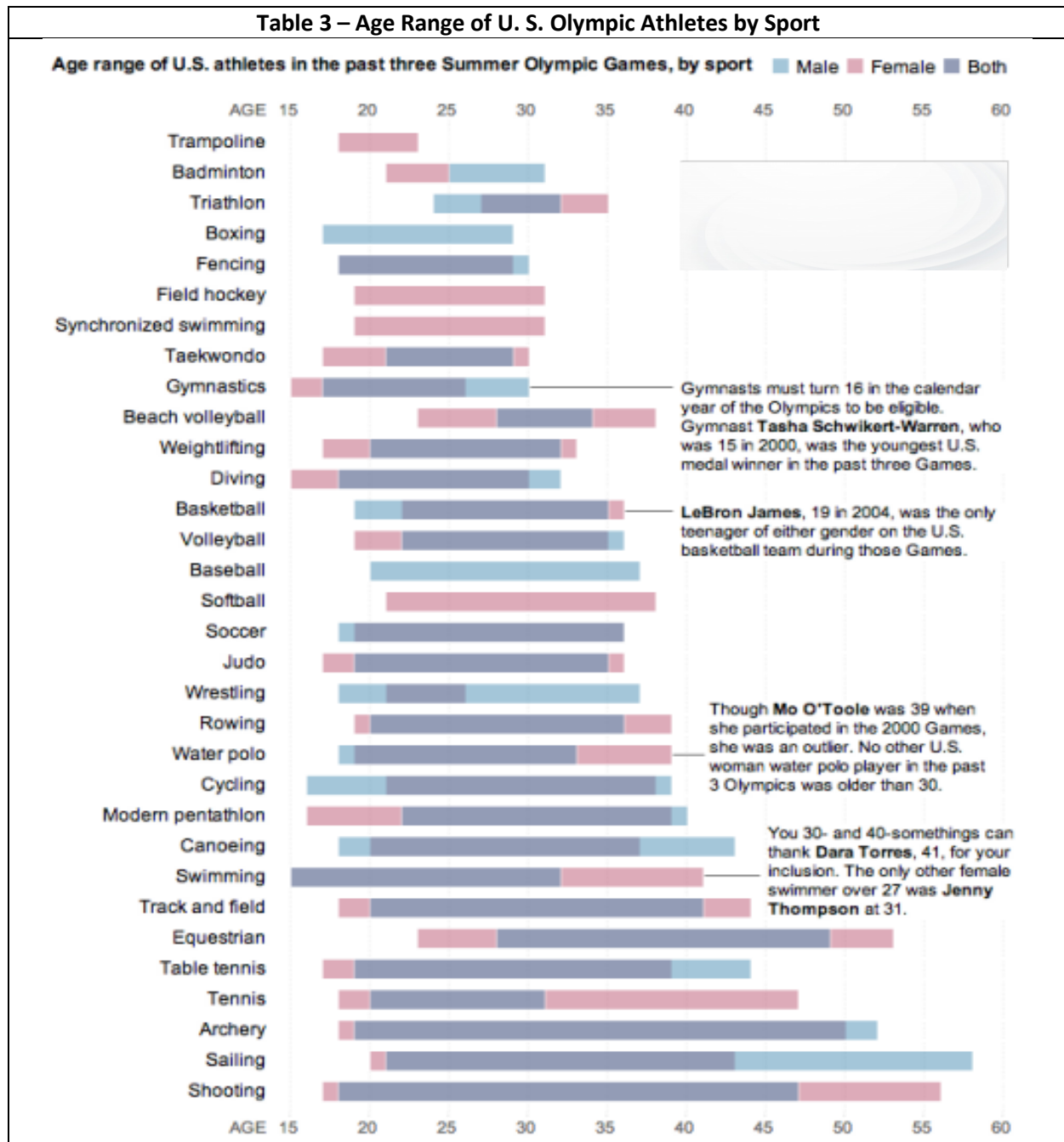
advocating for diverse sports experiences ranging from basic motor skill development to participation in a variety of sport-specific competitive experiences (see Table 1). While each of these position statements vary somewhat in term of their focus, they all essentially advocate that ***prior to puberty***, children involved in sports should be encouraged to participate in a variety of different activities and develop a wide-range of motor skills. Puberty is loosely defined as 12 and under or seventh grade or earlier.

Table 1 – Position Statements Recommending Against Early Sports Specialization
American Academy of Pediatrics (2000, 2010, 2014, 2016) ¹
American Orthopedic Society of Sports Medicine (2016) ²
National Strength and Conditioning Association (2016) ³
International Olympic Committee (2015) ⁴
American Medical Society for Sports Medicine (2014) ⁵
National Athletic Trainers Association (2011) ⁶

While all the issues raised about the negative impact of early specialization are of legitimate concern, perhaps the most studied is the increased incidents of overuse injuries. Research has clearly documented that early specialization leads to a substantial increase in injuries, specifically overuse injuries⁷. Studies of the psychological costs of early specialization are just beginning to appear but those studies of psychological burn out indicate that burn out exists when coaches and parents make virtually all the decisions about the young athlete’s participation and the feelings of “entrapment” predict burnout even more that total training time and effort.⁸ Table 2 presents some commonly recognized costs of early specialization.

Table 2 – Costs of Specialization^{9 & 10 & 11}
Excessive Time Commitment (Lost Childhood?)
Physical and Psychological Burnout Caused by Feelings of Entrapment, Stress/Pressure & Overtraining
Social Isolation and Lack of Diversity
Preventable Injury Rate Doubles

Table 3 represents the age patterns of successful male and female athletes who earned a berth of the U.S. Olympics Team across 3 Olympiads from 2004, 2008 and 2012.¹²



Arguments for Diversification

At a survey level, one study found that 97% of pro athletes believe multisport experience was a key to their success¹³. At a more objective level, a study of Olympic athletes found that 88% participated in more than one sport as a child with 76% playing three or more sports different than their chosen

Olympic sport.¹⁴ Athletes who play a variety of sports before puberty have fewer injuries and longer playing careers. Early, diversified sports experiences and later specialization provide a greater chance for lifetime sport involvement and possible elite status. Table 5 presents some of the benefits of early diversification.

Table 4 – Benefits of Multi-Sport Participation
Fewer overuse injuries (by as much as 50%)
Long term, higher levels of success
Less burnout & longer playing careers
More cross training and motor transfer of skills
More diversified groups of friends
Often more diversified experiences (starter in one reserve in another)

Why does early specialization continue?

Despite these clearly documented benefits of early diversification, early specialization appears to be increasing rather than decreasing. Why? One possible reason is the finding that early specialization is associated with early athletic success (at the state, regional and national levels) but less so with elite success (international level)¹⁵. Table 5 list some of the more likely benefits of early specialization. In addition, there are both structural and psychological reasons why early specialization continues to persist. As many as 27% of the 60 million youth athletes participate in only one sport.¹⁶ Clearly there are some real pressures to specialize and perhaps some benefits, whether real or perceived. What might they be? Some reasons appear to be structural, related to how sport is organized and how that structural organization has changed over the past 60 years. Some appear to be psychological and related to the belief systems of coaches, parents and participants.

Table 5 – Benefits of Specialization
Better Coaching
Better Competition
Higher Level Skills
Greater Recognition
Better Structured Use of Time

Structural Causes

The traditional sport season has changed dramatically. Instead of playing soccer in the fall, basketball in the winter and baseball in the spring, virtually every sport is now a year-long phenomenon. Today, different sport seasons overlap almost totally. Conflicting practice and games schedules are almost inevitable. As a result, coaches often pressure young athletes to attend their sport’s practice and games.

Without a doubt, most programs assign their better, more experienced coaches to the higher level teams and athletes. It is rare for “B” teams to be assigned the stronger coaches. Parents realize this and believe their child will receive better coaching and compete against better athletes if they specialize in

the hopes of being selected for the traveling and regional select teams as opposed to recreational or local teams.

Some parents believe that sports are a vehicle for earning college scholarships. As a result, they often believe that focusing on a single sport early will increase a young athlete's chance of successfully obtaining such financial aid. Actually, only about 2% of all high school athletes receive full-time athletic scholarships and the average athletic scholarship falls between \$6,000 to \$8,000 dollars. These one-year scholarships typically are based upon continued participation and clearly fall far short of the average small college costs of approximately \$25,000 and \$50,000 at large private institutions.¹⁷ Further, there is significantly more stable financial aid available for academic scholarships at most colleges and universities.

Psychological Causes

What distinguishes the "pushy" parent from the parent who provides support and encouragement? Virtually all thoughtful parents must make such a distinction. If you find yourself thinking that you are a good parent **because** of your child's success, you may be erring on the side of being too pushy. If you think of yourself and your parenting behaviors as a commitment to helping your child be all that they could be, hopefully your choices are providing your child with a healthy, supportive sports experience. A difficult distinction, but a healthy one to try to keep in mind.

Often it is the athlete's desire to specialize and commit to playing at a higher level of competition. Without stifling such commitment, encourage your child to sample different sports, particularly before the age of twelve. Commitment can be an admirable trait but commitment before they have experienced a variety of activities can be quite limiting. Further, the beneficial effect of practice hours can be distributed across multiple sports.

Excessive reliance on commitment has a "down side." Loyalty is considered an admirable trait. However, the question now often becomes "Loyal to whom or to what?" When parents encourage diversity, the young athlete often must choose between conflicting schedules. Which is it? The traveling league soccer games or the opening day of baseball season? Regardless of their choice, they must let one team down. As a result, the athlete often finds it easier – especially as the skills and commitment increase – to simply choose to participate in only one of the sports they love. Even when youth sport administrators of the different sports attempt to minimize conflicts created by coordinating scheduling to minimize conflicts between different sports programs within the same community, there are only so many weeks and weekends in the year. Conflicts quickly increase as the level of competition rises and more and more practices and competitions are scheduled.

Parents often hear the "fact" that virtuoso performance and elite success requires a 10,000 hour commitment. Such a belief leads to acceptance that specialization is necessary to meet such an excessive commitment. This concept, first proposed by Swedish psychologist Anders Ericsson¹⁸, was made famous by Malcolm Gladwell¹⁹ in his highly acclaimed book, *Outliers*. It has been cited so repeatedly in the popular literature that it has obtained the status of "Conventional Wisdom;" – that is, when a concept is repeated often enough, people begin to believe it as established fact whether the concept has been verified or not. In this case, the 10,000 Rule has NOT been supported by the evidence²⁰. While hours of practice account for approximately one-fifth of the variance (interpreted as

one fifth of the success), other factors are as important, if not more so, in determining success in high level sport (age, talent, genetics, intelligence).

The popularization of a few star athletes who have specialized early has also contributed to the belief that early specialization is necessary. Tiger Woods' 1st TV Appearance -- made at the age of two -- with Mike Douglas, Bob Hope and Jimmy Stewart is almost a legend. What goes often unreported are the accomplishments of a great many more athletes who played multiple sports prior to puberty and who started the sport in which they obtained elite status in their early teens. For example, Steve Nash, who became an NBA two-time MVP, played youth soccer and did not own a basketball until the age of 13 years. Roger Federer, the legendary tennis star with over 100 professional tournament wins, first played tennis at a very early age, but his parents promoted his involvement in a variety of sports including soccer until the age of twelve. While the appropriate age to begin specialized training for elite success probably varies from sport to sport, there is a growing body of evidence that early specialization undermines elite success in many sports, especially team sports. Because peak success tends to happen in the mid to late teens in some sports such as gymnastics and ice skating, the age to specialize is probably younger than in individual sports such as track & field where peak success occurs significantly later (see Table 4).

Sport Specialization – Inevitable?

In this day and age, sport specialization is probably inevitable, given the intensity of sport, the year-round seasons and the professionalization of organized youth sports. As one evidenced-based study concluded, "Some degree of sports specialization is necessary to develop elite-level skill development. However, for most sports, such intense training in a single sport to the exclusion of others should be delayed until late adolescence to optimize success while minimizing injury, psychological stress, and burnout."²¹ So what can parents do to maintain a healthy balance for their talented young athletes? We have almost three decades of evidence from the Women's Tennis Association that restrictions in the number of competitions permitted can have a number of beneficial effects.²² Such restrictions, implemented in 1990, produced fewer drop outs, longer careers and did not appear to hinder the development of the top women's tennis players. In fact, there is reason to believe that such restrictions are associated with international success by the truly elite athletes. Parents have little influence over national rules but do have significant influence over their child's involvement. So there are at least three things that parents can focus on.

1. Seek out the best information sport science has to offer for the sports in which your child shows an interest. We now know that early diversification decreases injuries, lengthens careers, correlates with international success and permits cross training for healthy all-around fitness and transfer of motor skills for high level sport performance.
2. Look for and encourage local recreation programs and youth sport organizations to offer "sampling" programs. After school programs in elementary and middle schools can provide excellent teachers who can offer short courses in a variety of sports such as volleyball, badminton, wrestling, handball, etc. for two to four week periods for children of all skill levels to sample activities often not offered in the traditional baseball, basketball soccer and lacrosse programs. These can be traditional intramural programs embedded in many of the after school latchkey programs. If such programs do not yet exist in your community, encourage school officials and local parks and recreation administrators to offer such programs.

3. Encourage your child to be a “Super Sampler” with praise and recognition for trying multiple sports, almost like working for merit badges in girl scouts and boy scouts. The earlier the child earns recognition for sampling, the better. Such behavior is likely to continue if it is rewarded early.

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