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Does Specialization in One Sport Benefit The Youth Today?

What is sport specialization? Sport specialization can be defined as “intense, year-round training in a single sport with the exclusion of other sports/play.”¹
The goal of sport specialization at an early age is to optimize the opportunities to develop athletic skills in one sport to enhance the chances of competing at the next level. Over the recent years, many coaches and parents have forced their children to specialize in one sport at an early age (before high school) rather than play many different sports.

Whether it is the coach not allowing the kids to miss practices/matches, a coach noticing an athlete's potential and pressuring them to specialize in one sport, parents thinking specializing will guarantee scholarships and elite status, or the kids wanting to focus on one sport (rare), many youth athletes no longer play multiple sports throughout the year for one or many of these reasons.

Does this benefit them? There is not consistent research to support that early specialization will lead to elite status other than gymnastics due to peak performance occurring at an earlier age. Read some of the evidence!

The pros of one sport specialization include:

Improved skill level:

- Athletes can potentially improve their skill level with more hours of training throughout the year for one sport
- It is shown to be beneficial in sports in which peak performance occurs in adolescence or early adulthood such as gymnastics, figure skating, diving, or hockey²

The cons of one sport specialization according to Dr. Jayanthi include:³

- increased psychological stress on the athlete
- potential increased rates of injury
- possibly increased burnout and dropout rates³

Overuse Injuries

-When performing only one sport all year, the same movement patterns occur repetitively causing repetitive loading of the same tendons, ligaments, muscles, and joints which can cause breakdown of those tissues leading to overuse injuries. "Children who specialize in a single sport **account for 50% of overuse injuries** in young athletes according to pediatric orthopedic specialists" ³

Burnout

-Children who play the same sport year round tend to burnout quicker and want to quit at an earlier age. Children who specialize early are at a far greater risk for burnout due to stress, decreased motivation and lack of enjoyment. "A study by Ohio State University found that children who specialized early in a single sport led to higher rates of **adult physical inactivity**. Those who commit to one sport at a young age are often the first to quit, and suffer a lifetime of consequences." ⁴

Interference with development

-Early specialization can interfere with child development due to increased social isolation as well as skill development by limiting their range of motor skills performed.

If these cons are not **ENOUGH**, read what the evidence is reporting below.

The evidence states.....

1. In a study of over 400 youth baseball pitchers, those that pitched more than 100 innings in a given year were 3.5 times more likely to be injured; another study demonstrated that pitching 8 months a year or more increased the risk of having shoulder or elbow surgery. This makes sense, as we know from other studies that increasing exposure (i.e. training, practice, competition) has a linear relationship with increasing injury risk. Interestingly, in another study examining burnout in competitive athletes, 20 percent of elite athletes cited injury as their reason for quitting their sport. ²
2. In a study of 1200 youth athletes, Dr Neeru Jayanthi of Loyola University found that early specialization in a single sport is one of the strongest predictors of injury. Athletes in the study **who specialized were 70% to 93% more likely to be injured** than children who played multiple sports. ²
3. Early sport specialization in female adolescents is associated with increased risk of anterior knee pain disorders including PFP, Osgood Schlatter and Sinding Larsen-Johansson compared to multi-sport athletes, and may lead to higher rates of future ACL tears. ²
4. A study published in the *Journal of Sports Sciences* last year found that young athletes who competed in three sports at ages 11, 13, and 15 were significantly more likely to compete at an elite national level in their preferred sport than those who specialized in only one sport at the ages of 11, 13, and 15. ⁴
5. In another study, from 2012, also published in the *Journal of Sports Sciences*, young male athletes who participated in multiple sports were found to be

more physically fit, have better gross motor coordination, more explosive strength, and better speed and agility than those who specialized in a single sport.⁴

6. According to Job Franzen, the reason multi-sport athletes, over time, become better athletes in their ultimate sport of choice is that boys participating in more than one sport are exposed to a greater number of physical, cognitive, affective, and psycho-social environments than boys participating in one sport only. Multi-sport athletes possess a broad range of physical, personal, and mental skills that help them to be successful when they start specializing in a single sport later in adolescence.⁴
7. When Cal Ripken was interviewed and asked when the first time was that he played baseball year-round, he stated, [specialization occurred] “when I signed a professional contract at 18.” Ripken was an all-state soccer player in high school. Ripken was a big man for a shortstop but he could really move his feet. Soccer helped him with his footwork.⁴
8. Michael Sokolove, author of *Warrior Girls*, says, “we all need to think more deeply about the insanity of our youth sports culture, with its focus on early specialization in one sport, and, especially its seasons without end. There’s an assumption that specialization makes kids better at their sport, that it promotes mastery. But it doesn’t. Every expert will tell you that it absolutely doesn’t.”⁴
9. Early specialization ignores the importance of deliberate play/free play. Deliberate play increases motor skills, emotional ability, and creativity. Children allowed deliberate play also tend to spend more time engaged in a sport than athletes in structured training with a coach.⁴
10. “One study of NCAA Division 1 female athletes found that most had played other sports, and only 17 percent had only exclusively played in their current sport.”⁵

The evidence in support of multi-sport athletes...

1. **Enhanced aptitude:** “Research shows that early participation in multiple sports leads to better overall motor and athletic development, longer playing careers, increased ability to transfer sports skills other sports and increased motivation, ownership of the sports experience, and confidence.”
2. **Improved resourcefulness and planning:** Multi-sport athletes at young ages tend to have improved pattern recognition, creativity and have better decision-making.
3. **Recruiters want multi-sport athletes:** A 2013 American Medical Society for Sports Medicine survey found that 88% of college athletes surveyed participated in more than one sport as a child
4. **10,000 Hours is not a Rule:** Many people have adopted this 10,000 hour rule discovered by Anders Ericsson such as Malcolm Gladwell of *Outliers* which only focuses on deliberate practice and does not take into account ones genetics, natural ability, coaching, or opportunities given. These can all affect their elite status being achieved. Studies have supported 4000-6000 hours required for mastery of sports such as basketball and wrestling. A 2003 study on professional ice hockey players found that while most pros had spent 10,000 hours or more involved in sports prior to age 20, only 3000

of those hours were involved in hockey specific deliberate practice (and only 450 of those hours were prior to age 12).³

In conclusion, is sport specialization at an early age supported in the literature? No! It has more cons than pros. Athletes performing different movement patterns in different seasons with different sports will allow muscles to train and develop differently helping to reduce risk of overuse injuries. It will allow them to develop emotionally, socially, and psychologically in different ways. The American Medical Society for Sports Medicine suggests, that "diversified sports training during early and middle adolescence may be a more effective strategy in ultimately developing elite-level skills in the primary sport due to a positive transfer of skills." The AMSSM says consideration should be given to "delaying intensive, specialized training until late adolescence, rather than a specific age, to optimize skill development in most sports."² (Adolescence begins with the onset of physiologically normal puberty and ends when an adult identity and behavior are accepted)

Jean Cote and Jessica Fraser-Thomas suggest that at no time should a young athlete participate year round in a single sport. "While they recommend that athletes in sports whose competitors peak after age 20 need to accumulate around 10,000 hours of general sports participation, no more than half of that needs to be deliberate practice of their chosen sport. As a general rule they recommend the following age breakdown for athletes trying to achieve elite status in a specific sport:"³

- *"Prior to age 12: 80% of time should be spent in deliberate play and in sports **OTHER THAN** the chosen sport!*
- *Age 13-15: **50/50 split** between a chosen sport and other athletic pursuits*
- *Age 16+: Even when specialization becomes very important, **20% of training time should still be in the non-specialized sport and deliberate play.**"³*

References:

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