

# Moving a Field Forward: What Are the “Big” Research Questions in Sport Specialization?

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This month's *Journal of Athletic Training* is a special thematic issue on sport specialization and youth sports. Sport specialization is now ubiquitous in many youth sports. Recent authors<sup>1</sup> have highlighted its potential association with musculoskeletal injuries—particularly overuse injuries.

As research on sport specialization in young athletes continues to evolve, the importance of including the effects on psychosocial wellbeing and long-term health-related quality of life is being recognized. We need to learn much more to effectively care for children and advise families, coaches, and health care providers as they navigate youth sports today. Many questions remain. The goal of this special edition is to encourage readers to consider sport specialization in youth sports as it pertains to short-term and long-term physical health, psychosocial wellbeing and burnout, and health care; this issue also strives to inform public policy with a high level of evidence. In this editorial, we want to highlight some of the “big” questions in the field, at least from our perspective.

## The Questions

**Is There a Right Way to Specialize?** The current recommendations for safe sport involvement for children include limiting organized sport participation to fewer than 8 months per year in a single sport, participating in organized sport for no more hours per week than the child's age (ie, a 13-year-old child should not participate in more than 13 hours of sport per week), having 1 to 2 days off per week, and participating in only 1 organized league at a time (ie, not participating in multiple baseball leagues at the same time or basketball and soccer leagues at the same time).<sup>2</sup> It is important to increase awareness of these recommendations while promoting fun and enjoyment in sustained physical activity and sport participation.

**How Much is Too Much?** Inherent in sport specialization is an increase in training hours.<sup>3</sup> Successful participation of elite rhythmic gymnasts supports increased volume and training, notably at the cost of less reported fun and the perception of worse overall health.<sup>4</sup> Although it is difficult to know how much is truly too much, monitoring training volume and possibly decreasing training demands during times of peak growth should be considered. More research attention to sport volume is needed to direct guidelines for youth sports.

**Is There a Right Age to Specialize?** Age-based recommendations are convenient even though they might not reflect the developmental stage of many children. Current data<sup>1</sup> suggest that prepubertal sport specialization is associated with overuse injury. And larger questions remain about how burnout, stress, and anxiety are associated with sport specialization during the early childhood years.<sup>5</sup> Alternatively, does later specialization promote overall fitness and neuromuscular development and minimize drop out?

**What Is the Best Way to Make Decisions About Specialization?** Informed and shared decision making with patients, athletes, coaches, and parents is a primary goal for sport specialization. As we continue to learn about the risk-benefit ratio of sport specialization in youths, dissemination of information and continued education is critical, while also emphasizing the many benefits of sport participation for children and acknowledging individual athletes' goals and the demands of and skill required for each sport. The best way to approach this difficult concept still eludes us; more and more children and families make these decisions, yet they seem to have little control over their circumstances and report feeling forced to specialize.

**How Does Specialization Influence Health Later in Life?** In a recent article,<sup>6</sup> Baxter Holmes of ESPN discussed the possible roles of youth sport specialization and injuries in the careers of professional athletes. This piece echoes sentiments from many sports medicine colleagues at collegiate institutions: Athletes are arriving in the collegiate and professional ranks with significant histories of severe injuries. How does this affect their quality of life after their careers are over? Are long-term measures of health the same for the early specialist versus the late specialist versus the nonspecialist athlete? For example, does early specialization affect the degenerative joint disease curve, and if so, does this shift negatively influence long-term physical activity, cardiovascular health, and metabolic syndrome?

We extend our gratitude to all of the authors for their valued contributions to this special issue. We also thank the *Journal of Athletic Training* for providing us with a platform to publish this work. Athletic trainers are the ideal audience for the articles in this issue on sport specialization and are well positioned to continue research efforts and enact positive change in the youth sport-specialization arena.

## REFERENCES

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*Editor’s note: David R. Bell, PhD, and Andrea Straccolini, MD, FAAP, FACSM are guest editors for this special issue of the Journal of Athletic Training.*