

Early Single Sport Specialization: A Survey of 3,090 High School, Collegiate, and Professional Athletes

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Abstract

Background: Youth participation in organized sports in the United States is rising, with many athletes focusing on a single sport at an increasingly younger age.

Purpose: The purpose of our study was to retrospectively compare single sport specialization in current high school (HS), collegiate, and professional athletes with respect to the rate and age of specialization, the number of months per year of single sport training, and the athlete's perception of injury related to specialization.

Study Design: Retrospective Cross Sectional Epidemiologic study

Methods: A survey was distributed to HS, collegiate and professional athletes prior to their yearly pre-participation physical exam. Athletes were asked if they had chosen to specialize in only one sport, and data was then collected pertaining to this decision.

Results: A total of 3,090 athletes completed the survey (503 HS, 856 collegiate, and 1,731 professional athletes). A significantly higher percentage of current collegiate athletes specialized to play a single sport during their childhood/adolescence (46.3% of HS athletes, 67.7% of collegiate athletes, and 45.9% of professional athletes, $p < 0.00001$). The age of single sport specialization differed between groups and occurred at

an average age of 12.7 ± 2.4 (HS), 14.8 ± 2.5 (collegiate) and 14.1 ± 2.8 years (professional), respectively ($p < 0.001$). Current HS (39.9%) and collegiate athletes (42.1%) recalled a statistically higher incidence of sport-related injury than current professional athletes (25.4%) ($p < 0.0001$). 61.7% of professional athletes indicated that they believed specialization helps that athlete play at a higher level versus 79.7% of HS and 80.6% of collegiate athletes ($p < 0.0001$). Notably, only 22.3% of professional athletes said they would want their own child to specialize to play only one sport during childhood/adolescence.

Conclusion: This study provides a foundation for understanding current trends in single sport specialization in all athletic levels. Current high school athletes specialized, on average, two years earlier than current collegiate and professional athletes surveyed. This data challenges the notion that success at an elite level requires athletes to specialize in one sport at a very young age.

Clinical Relevance: Increased participation in sports provides many benefits but has also been associated with an increased risk of injury. Further understanding of this phenomenon can help physicians better advise and treat their patients.

Key Words: Sports Specialization, Youth, single, and Injury

What is known about the subject: Rates of youth single sport specialization are on the rise, but the link to higher injury risk, increased psychological burden, and perceived benefit for future elite sport participation is unknown.

What this study adds to existing knowledge: Our study suggests that high school athletes are specializing at an earlier age than current collegiate or professional athletes and that these high school athletes report a higher incidence of sports-related injury.