No Game for Boys to Play
Debating the Safety of Youth Football, 1945-2015

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ABSTRACT

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Tackle football has been one of the most popular sports for boys in the United States since the mid-twentieth century. This dissertation examines how debates over the safety of football for children at the high school level and younger have changed from 1945 through the present. After World War II, the expansion of youth tackle football leagues, particularly for pre-pubescent children, fostered a new range of medical and educational concerns. Yet calls for limits on tackle football were largely obscured by the political and social culture of the Cold War, including beliefs about violence, masculinity, and competition.

A broad range of groups and individuals were involved in debating the safety of youth football throughout the remainder of the twentieth and early twenty-first century. These groups included doctors, coaches, educators, lawyers, engineers, parents, athletes, journalists, and sporting goods manufacturers. Their arguments over the risks and benefits of youth football involved not only the sport's effects on physical health, but also on social and emotional well-being. By the 1970s, researchers were applying injury epidemiology methods to studying key mechanisms involved in football injuries, while a broader consumer product safety movement contributed to the development of the first football helmet standards. Football equipment not only remained a primary focus of football safety debates, but often symbolized safety itself. Sporting goods manufacturers largely succeeded in framing the issue of football safety as a matter of individual responsibility.

The social position of children and their communities shaped debates over the risks and benefits of football, including the sport's spectator nature. By the early twentieth-first century, concerns about football-related brain injuries at all levels of the sport emerged as a topic of national debate. New medical findings and the reporting and advocacy of journalists and former athletes contributed to increasing awareness of brain trauma in the sport. Debates over the appropriate policy recommendations to make in the context of uncertainty over youth football's long-term consequences have persisted since 1945 through the present.

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Acknowledgements

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The Strenuous Life (excerpt)

"They say it's dangerous!" said I; but he said, "I don't care;
We'll get back seats. I understand there'll be policemen there."
So there we sat and viewed the whole preposterous affair.

It turned out safe enough for us, and as for those young chaps
Who played, they all made nothing of astonishing mishaps,
Enduring superhuman-seeming strains without collapse.

They'd kill a player frequently, and on his corpse would pile
A score of them, and then pile off, and he'd get up and smile,
And kick the ball, the blessèd crowd all hollering meanwhile.

--Edward Sanford Martin, in *The Athlete's Garland: A Collection of Verse of Sport and Pastime (1905)*

Introduction

In 1905, Professor Shailer Matthews, the dean of the University of Chicago's Divinity School, urged the abolition of "a social obsession—a boy-killing, education prostituting, gladiatorial sport. It teaches virility and courage, but so does war. I do not know what should take its place, but the new game should not require the services of a physician, the maintenance of a hospital, and the celebration of funerals." Matthews was referring to youth tackle football, and he was far from the sport's only critic at the turn of the twentieth century. In fact, Matthews wrote at a time when roiling debates over football's safety and its association with schools spurred significant reforms. In 1906, the Intercollegiate Athletic Association of the United States, later renamed the National Collegiate Athletic Association (NCAA), was established to oversee the sport at the college level.[1]

In 1931, a football team physician published a survey of football injuries in the high schools of Massachusetts. His study was motivated in large part by persistent concerns that the sport was too risky for children. He introduced his medical study by describing the prevailing fears that prompted his work. "'If I had a son I'd never let him play football—it's too dangerous.' How many times have those associated with football heard that or similar remarks?" The doctor hoped that his injury survey would alleviate these concerns. He maintained that "football, under proper supervision, gives boys a natural outlet for their nervous energies and

[1] "Football Reform by Abolition," *The Nation* 81 (November 30, 1905): 437-438. See also See also John Hammond Moore, "Football's Ugly Decades, 1893-1913," *The Smithsonian Journal of History* 2 (Fall 1967): 49-68.

keeps them off the streets, thereby avoiding many mishaps, such as automobile, motor-cycle and trolley car injuries, and others too numerous to mention."[2]

In 1961, a sports journalist worried that football was becoming increasingly violent and dangerous and warned that reform to youth football was essential to prevent the goal line from becoming "the ghoul line." He emphasized that head and neck injuries were of particular concern, and that the object of the game needed to be scoring points, not scoring casualties. "Any further progression in the direction of brutality instead of ballet and they may have to stop counting touchdowns and start counting concussions."[3]

In 2013, U.S. President Barack Obama told the *New Republic*: "If I had a son, I'd have to think long and hard before I let him play football." The president's remarks came amid widespread media coverage of the dangers of concussions associated with the sport, as well as lawsuits filed against the National Football League by former players who alleged that the League failed to adequately inform them of the risks. Another prominent round of anxiety over the risks football posed to young athletes was under way.[4] In 2014, an essayist expressed astonishment at the longstanding and extraordinary prominence of the violent youth sport in the United States:

> What does it mean that our society has transmuted the intuitive physical joys of childhood—run, leap, throw, tackle—into a corporatized form of simulated combat? That

[2] Joseph H. Burnett, "Survey of Football Injuries in the High Schools of Massachusetts," *The Journal of Health and Physical Education* 2;8 (October 1931): 32-33, 50.

[3] Jim Murray, "Head Coach or Surgeon?" *Los Angeles Times*; October 19, 1961.

[4] Franklin Foer and Chris Hughes, "Barack Obama Is Not Pleased: The President on His Enemies, the Media, and the Future of Football," *The New Republic*, January 27, 2013. Accessed February 18, 2013 at http://www.newrepublic.com/article/112190/obama-interview-2013-sit-down-president#

> a collision sport has become the leading signifier of our institutions of higher learning, and the undisputed champ of our colossal Athletic Industrial Complex?[5]

Such questions about the risks and benefits of youth football, its intimate association with American educational institutions, and its existence as a form of entertainment for adults have persisted to a remarkable extent throughout the twentieth and early twenty-first century. What exactly were the health consequences of football? Did the sport build strong bodies and turn boys into men, or did it harm the health of vulnerable children? Arguments over the nature and safety of this most popular American sport, its suitability for children, and the effectiveness of protective equipment in preventing injuries are as old as the game itself.[6]

In this dissertation, I examine the history of American debates over the safety of youth football and the effectiveness of injury prevention strategies (notably helmets and other protective equipment). After providing an overview of the growth of youth football since the Progressive Era, the remainder of the project primarily focuses on the period after World War II, when youth football grew immensely in popularity and prepubescent boys increasingly participated. This project ascertains the centers of controversy throughout this period, including identifying influential individuals and groups involved in critical moments of change in debates over the safety of youth football in the United States.

This project focuses on youth football because the vast majority of tackle football athletes have been children. Comparatively few athletes continue to play football in college, let alone professionally or as older adults, whereas every year millions of American boys participate in

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[5] Steve Almond, *Against Football: One Fan's Reluctant Manifesto* (Brooklyn, NY: Melvin House Publishing, 2014), 7-8.

[6] 11-player football remains the high school sport with the greatest number of male participants according to 2014-2015 data. "2014-2015 High School Athletics Participation Survey," National Federation of State High School Associations. Accessed February 10, 2016 at http://www.nfhs.org/ParticipationStatistics/PDF/2014-15_Participation_Survey_Results.pdf.

football. The ethical questions related to the physical risks that children can assume are quite different from the corresponding questions about the risks that adults can assume. In addition, children's still-developing bodies are differently susceptible to injuries than those of fully-grown adults. Consequently, examining the youth level of play has more significant implications from a public health perspective. In addition, while the NFL and college levels of play have generally entailed far more money and media attention, studying youth sports is also important from a cultural and historical perspective. As Roberta J. Park concluded in an essay on "A Decade of the Body," while sports and exercise may often be consigned to a sort of "special" history bin, given their prominent role in the daily lives of adults and children, they provide a highly useful approach to the study of the past.[7]

Yet the history of youth sports remains relatively overlooked as compared to college and professional sports, and youth football in particular remains significantly understudied. Sports historian Michael Oriard has noted that the vast history of high school football is "nearly unwritten."[8] Studies examining the history of institutions administering high school athletics have not focused on student health and safety. Several authors have written histories of college and professional football, and a handful of largely laudatory accounts of the high school game tangentially refer to efforts to address injuries. Thus, there is a gap in the existing literature that this study addresses by examining the history of debates over the sport's safety and health effects at the high school level and younger.[9]

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[7] Roberta J. Park, "A Decade of the Body: Researching and Writing About the History of Health, Fitness, Exercise, and Sport," *Journal of Sport History* 21;1 (1994): 59–82.

[8] Michael Oriard, review of *The Way We Played the Game*, by John Armstrong. *Journal of Sport History* 30;3 (2003): 384-395.

[9] For example, Craig R. Coenen, *From Sandlots to the Super Bowl: The National Football League, 1920-1967* (Knoxville: University of Tennessee Press, 2005); Michael McCambridge, *America's Game: The Epic Story of How Pro Football Captured a Nation* (New York: Anchor Books, 2004); Raymond Schmidt, *Shaping College Football:*

Debates over the safety of youth football occurred among doctors, lawyers, equipment engineers, and sporting goods manufacturers, as well as among the general public, including journalists, parents, coaches, and the players themselves. One goal of this project is to understand when and how public health and medical professionals became involved in efforts to improve football safety. When did health professionals begin to systematically study the epidemiology of football injuries and to evaluate the effectiveness of equipment and other protective interventions? How did medical and nonmedical understandings of sports safety—and threats to safety—change over time? Further, in what ways did medical opinions not only highlight risks, but also downplay them?

This project also examines how arguments based on players' physical safety interacted with arguments based on moral and cultural concerns. For example, how did broader cultural transformations, such as the changing demographics of who played high school football, and changing attitudes toward masculinity, childhood and adolescence, influence debates over the safety of football? What cultural norms and attitudes, such as notions of "manhood" and "toughness," were involved, and how did these change? By addressing these questions, this project aims to place football and other sports-related injury prevention efforts in critical social, cultural and historical context.

I also examine the role of sporting goods manufacturers in these debates. Many histories of public health have described how a range of consumer products, from tobacco to lead, have

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The Transformation of an American Sport, 1919-1930, (Syracuse, NY: Syracuse University Press, 2007); John Sayle Watterson, *College Football: History, Spectacle, Controversy* (Baltimore: Johns Hopkins University Press, 2000); David M. Nelson, *The Anatomy of Game: Football, the Rules, and the Men Who Made the Game* (Newark, DE: University of Delaware, 1994). For local accounts focused on high football, see, for example, Jane E. Good, *High School Heroes: A Century of Education & Football at Annapolis High School, 1896-2003* (Bowie, MD: Heritage Books, 2004) and John Boyanoski, *High School Football in South Carolina: Palmetto Pigskin History* (Charleston, SC: History Press, 2010).

posed a threat to the public's health. Yet manufacturers of protective sports equipment were offering products explicitly intended to protect consumers' health. They thus formed alliances with public health and medical professionals, rather than opposing their interventions. In promoting their business interests, sporting goods dealers and manufacturers influenced arguments and ideas about the football's health effects, and the role that their various products could play in mitigating risks.

Development of American Tackle Football and Mechanics of the Game

Tackle football has its early origins in rugby and soccer. All these sports involved two teams of players competing for control of a ball, and in each of which the ball could be kicked through a goal or run across a line in order to score points. While football would continue to share similarities with these other competitive team sports, this quintessentially American sport developed its own particular set of rules in the United States in the late nineteenth century.

Although the modern sport would primarily develop at elite colleges in the Northeastern United States, the first football match may in fact have taken place among high school students in the 1860s. By the 1920s, a number of leading football luminaries would accept the Oneida Football Club of Boston as the first organized football club. This club included boys from several Boston area high schools, and its first match likely occurred on November 7, 1963, according to a newspaper account two days later. The news account stated that "an interesting game of Football took place on the Common on Saturday afternoon, between the well known Oneida Club and a chosen sixteen of the High and Latin schools of this city." The surviving members of this Oneida Club proudly highlighted that as schoolboys, they had played a new version of American football several years before any college students at Princeton, Rutgers, Harvard or Yale attempted the game. In November 1925, the Oneida Club alumni established a stone

monument at the entrance to Boston Common in honor of the club's athletic achievements, emphasizing their victorious record. The seven surviving teammates had inscribed on their plaque that in all their matches, "the Oneida Goal was never crossed."[10]

The origins of modern college football, however, are most usually traced to a November 6, 1869 game in New Brunswick, New Jersey between Princeton and Rutgers. Princeton modified rules of the London Football Association, a rugby club, to allow for 25 players to a side, kicking or butting the ball with the head, scoring six goals to win a game, and placing goal posts 25 feet apart. In the ensuing years, other Ivy League schools, including Columbia, Cornell, Harvard, and Yale began to join in with their own various sets of rules. To attempt to standardize the game, several of these schools formed the Intercollegiate Football Association in 1876.[11]

In a series of meetings over the ensuing years, modern football took shape. The previously used round rubber ball was discarded in favor of an egg-shaped leather ball. The number of players on a team was reduced to eleven. In 1880, a new method of putting the ball into play was introduced: an athlete would place the ball on the ground in front of him and either kick the ball or snap it back with his foot. This development proved to be the origin of the modern American football scrimmage. The American scrimmage established the principle of possession of the ball, distinct from a more haphazard rugby scrum where neither team had the right to possess the ball or put it into play. In 1882, a system of "downs" was introduced into

[10] Winthrop Saltonstall Scudder, *An Historical Sketch of The Onedia Football Club of Boston, 1862-1865* (Massachusetts Historical Society, 1926).

[11] Allison Danzig, *The History of American Football: Its Great Teams, Players and Coaches* (Edgewood Cliffs, NJ: Prentice-Hall, 1956); Amos Alonzo Stagg and Wesley Winans Stout, *Touchdown!* (New York: Longsman, Green and Co., 1927); Emily A. Harrison, "The First Concussion Crisis: Head Injury and Evidence in Early American Football," *American Journal of Public Health* 104;5 (2014): 822-833. See also Douglas A. Noverr and Lawrence E Ziewacz, *The Games They Played: Sports in American History, 1865–1980* (Chicago: Nelson-Hall, 1983) for illustrations of the development of American football in the late nineteenth and early twentieth centuries.

college football. This system prescribed the number of consecutive tries a team had to attempt to advance a particular number of yards down the field before they would be required to surrender the ball to their opponents. The system would be installed on football fields by marking off yards on the field, known as a gridiron. Another profound change occurred in 1888, when tackling players below the waist was legalized. Football thus developed into a sport where repeated series of violent, full-body collisions were involved in attempting to gain control of the ball and move it down the field.[12]

Football equipment was introduced gradually. In 1932, football star John Heisman would recall that in the earliest days players wore no padding or protection of any sort. In the 1890s and 1900s, however, players began to wear "shin guards, rubber nose guards, and home soft pads for elbows." Much of this padding was made of leather and wool and soon covered the most vulnerable parts of the players' bodies. As an 1897 *Chicago Daily Tribune* article delicately observed, "especial precaution has been made this year for the hips, and a protuberance greater there than anywhere else shows extra padding." After the introduction of these relatively soft protective pads, Heisman recounted, next "came leather helmets and sole leather shoulder pads-sometimes reinforced with metallic plates—and thigh and knee pads of more or less murderous composition. Inflexible and unyielding pads often did damage to the opponent."[13]

Although leather head protection would be become so ubiquitous that football players could be described as "leatherheads," the headgear was initially viewed with skepticism. According to one author, around the turn of the twentieth century, "an enterprising manufacturer

[12] Allison Danzig, *The History of American Football: Its Great Teams, Players and Coaches* (Edgewood Cliffs, NJ: Prentice-Hall, 1956).

[13] Allison Danzig, *The History of American Football: Its Great Teams, Players and Coaches* (Edgewood Cliffs, NJ: Prentice-Hall, 1956), 88; "Football Armor: Changes in the Devices for Players This Year," *Chicago Daily Tribune*; October 3, 1897.

put the first pneumatic head harness on the market made of soft black rubber with an inflated crown. The old timers thought such head guards 'sissy,' contending that no 'real football player' would wear one." From its earliest introduction into the sport, then, football equipment could serve to protect its wearer or to cause harm to other players, and whether the gear enhanced a player's masculinity or rendered him a coward was a source of contention.[14]

Professional medical journals were beginning to remark upon the frequency and severity of deaths and injuries sustained in youth football matches. In 1902, the *Journal of the American Medical Association* (*JAMA)* reported from that year's football season twelve fatalities ("enough to supply a respectable Spanish-American war"), eighty serious injuries, and innumerable "smaller items" such as sprains, lost teeth, and torn ears.[15] In discussing this *JAMA* report, one commenter observed that future generations would be surprised "that there should be a medical history of a "sport," but the figures fully justify the term."[16]

Project Overview

This study proceeds in six chapters. The first provides an overview of the development of youth football in the United States, followed by placing debates over the safety of football after World War II through the 1950s in the social and political context of the Cold War. The second introduces doctors, coaches and parents as interested adults involved in understanding and framing football injuries as a medical issue. In the third chapter, I focus on efforts to standardize and assess the efficacy of the key protective device – the helmet. The fourth chapter examines

[14] Lamont Buchanan, *The Story of Football in Text and Pictures* (New York: Stephen-Paul Publishers, 1947), 63.

[15] "The Football Mortality," *JAMA* 39;23 (1902): 1464-1465.

[16] "Annual Football Mortality," *Independent* 54 (December 11, 1902): 2977-2978.

how sporting goods manufacturers shaped debates over the risks of youth football, not only through advertising their products, but also by trying to limit their liability in lawsuits related to football helmets. The fifth chapter evaluates how football's role as a prominent community event in many locales influenced perceptions of risk. A few bumps on the head or broken bones often appeared of minor concern in relation to promoting children's academic and social success. Finally, the sixth chapter examines the contemporary "concussion crisis" and other recent developments in youth football safety debates, notably how recent NFL-sponsored research and programs have influenced the ways the youth game is (and is not) discussed.

This dissertation primarily relies on a wide variety of archival material, including medical and public health literature, material from state and local athletic associations, education journals, government agency reports and other archival material from relevant government agencies and associations, articles in trade journals, proceedings from sporting and coaches' associations, local and national newspapers, youth- and sports-oriented magazines, and historical advertisements for protective football equipment placed by sporting goods manufacturers in these publications.

There are several important limitations of this project to consider. The first is the challenge of identifying archival material specifically oriented to youth football programs. While college and professional associations such as the NCAA and the NFL have the resources to maintain greater documentation of materials, such as meeting minutes, conference agendas, and letters, amateur and/or youth organizations operating on a shoestring budget largely lack the means to develop and maintain archives. Notably, the largest youth football league in the United

States, Pop Warner Little Scholars, did not have archival material available for research use.[17] This introduces significant bias into the kinds of archival material that are available. The primary source of youth football archival material used in this dissertation, the Dave and Mary Vannicelli Collection of the King of Prussia Historical Society, was made available due to the generous donation of youth football archival materials provided by the founders of a local youth football league. While this material provides an illustrative example of how one youth football league operated, systematic comparisons of youth safety debates across different geographic regions of the United States or different type of youth league structures were not possible.

Additionally, this dissertation largely examines the safety debates and arguments put forward by a broad range of adults who supervised, supported, protested, or even profited from youth football. While several stories and quotes provide some indication of how young players themselves viewed the risks and benefits of the game, this project provides relatively limited insights into the perspectives of child athletes on the risks they were undertaking.

Despite these important limitations, studying history of debates over the safety of a violent recreational sport for boys is a way to understand major themes in the history of American sport, health, culture, politics and law. This history continues to shape the debates over the sport's risks. In the fall 2015 season, at least eleven boys died playing high school football. Despite many rule and equipment changes, over a century since Professor Shailer Matthews decried youth tackle football, many elements of his critique remain pertinent to the twenty-first century game.

[17] Josh Pruce, National Director of Scholastics and Media Relations for Pop Warner, in discussion with the author, August 4, 2014.

While a number of physicians and other observers have long been aware of head injuries in football, only recently have they been framed as a major public health crisis. As one researcher noted in 2014, "what gained attention a century ago as a medical problem among young men playing football in elite colleges is now a serious problem of public health."[18] Beyond concerns over head injuries, however, this history indicates that a wide range of other concerns and priorities have shaped youth football safety debates. Indeed, in many ways, youth football injuries and deaths represent an inscription of adult values onto children's bodies. Tracing the history of debates over the sport's safety is essential to better understanding these values and their implications for children's health.

[18] Emily A. Harrison, "The First Concussion Crisis: Head Injury and Evidence in Early American Football," *American Journal of Public Health* 104;5 (2014): 822-833.

Chapter One: "We Are Not a Nation of Softies"— Growth of Youth Football from the Progressive Era to the Cold War

Although American high school students had played informal football matches in parks and fields since the second half of the nineteenth century, by the 1880s students in Northeastern and Midwestern cities had begun to organize their own leagues, often with encouragement from alumni. Initially, faculty members or school administrators did not supervise such matches; nonetheless, the games often attracted spectators and interest from local communities.[1] By 1902, early inter-regional matches were taking place, with Brooklyn Polytechnic students, champions of greater New York, traveling to Chicago to compete against Hyde Park High School. In what historian Robert Pruter has deemed "perhaps the most one-sided high school intersectional contest of all time," Hyde Park defeated Brooklyn Polytechnic 105 to 0.[2] While acknowledging that the younger boys had been "a little slow in picking up the game" as compared to college students, an enthusiastic 1905 *Washington Post* article claimed that there was "barely a high school which does not possess its college eleven."[3]

In the late nineteenth and early twentieth centuries, newspapers published opinion pieces warning of the dangers that tackle football posed to college participants, and advising either altering or banning the game. For instance, an 1892 commentary in the *Chicago Daily Tribune*

[1] Stephen Hardy, *How Boston Played: Sport, Recreation, and Community 1865*-1915 (Boston: Northeastern University Press, 1982). In Brooklyn, for example, high school students from four schools organized a series of games to play for the title of the "boss kickers of Brooklyn." An 1893 *New York Times* article asserted that "the rivalry between the four teams is as keen as that shown between the regular college elevens, and locally the interest is nearly as great." "Schoolboys Have Crack Teams: Never So Much Interest as Now Shown in Interscholastic Football," *New York Times*; October 31, 1893.

[2] The following day, the *New York Times* observed that "As a more even contest had been expected, the rapid scoring grew somewhat monotonous." Robert Pruter, "Chicago High School Football Struggles, the Fight for Faculty Control, and the War Against Secret Societies, 1898-1908," *Journal of Sport History* 30;1 (2003): 47-72; "Brooklyn Team Beaten: Poly Prep Football Eleven Made Lamentable Showing," *New York Times*; December 7, 1902; "Brooklyn vs. Hyde Park: East to Meet West for High School Football Honors," *Chicago Daily Tribune*; December 1, 1902.

[3] "Football Old Game: Gridiron Sport Was Introduced Thirty Year Ago," *The Washington Post,* October 8, 1905.

warned that should football become a national pastime, it "must be reformed or it will cripple and physically ruin thousands of young men."[4] Two years later, the same newspaper published an opinion piece whose author asserted that the dangerous game "has trickled down among the schoolboys who are preparing for college" and that such a vicious sport "which may be won by disabling your adversary, or wearing out his strength, or killing him, ought to be prohibited, at all events, among [civilized people's] youth."[5] By the turn of the century, the increasing popularity and visibility of the sport at the university level had attracted unfavorable attention. Several prominent university leaders argued that, while such risk-taking might be justified in occupations such as fire protection and seafaring, "no mere sport" should imperil life.[6] Some observers confidently predicted that the football would soon fall into disfavor.[7]

Although the best-known efforts to ban or modify the sport occurred at the college level, with President Theodore Roosevelt's calls for reform ultimately contributing to the formation of the National Collegiate Athletic Association (NCAA),[8] some high school officials also tried to prohibit the game. In 1909, the New York Board of Education banned football from city high schools, with one member, John Greene, explaining that the game fostered "a desire to maim," and Commissioner Frederic R. Coudert characterizing it as "homicidal, barbaric and brutal."[9]

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[4] "The Brutal Game of Football," *Chicago Daily Tribune*, December 11, 1892.

[5] "Football Apologies: The Game is a Dangerous and Demoralizing One," *Chicago Daily Tribune*, November 30, 1894.

[6] George E. Merrill, "Is Football Good Sport?" *North American Review* 177; 564 (November 1903): 758-765; Ira Hollis, "Intercollegiate Athletics," *Atlantic Monthly* 90 (1902): 534.

[7] "Perils of the Football Field," *San Francisco Chronicle*, November 27, 1902.

[8] Ronald A. Smith, "Harvard and Columbia and a Reconsideration of the 1905-1906 Football Crisis," *Journal of Sport History* 8:3 (1981); 5-19.

[9] "Football is Prohibited in New York's Public Schools," *The Baltimore Sun*, December 10, 1909; "Ban on Football: Board of Education Nearly Unanimous," *New York Tribune*, December 9, 1909.

The Board of Education's decision elicited protests from defenders of football, who contended that "there is no special hazard in the game if it is properly planned and properly controlled."[10] In 1910, New York reinstated football in public high schools under new rules that would purportedly reduce the most serious safety threats.[11]

As efforts to ban football failed and its popularity increased, school officials instead sought to supervise the sport.[12] As historian Elliot Gorn writes, by the 1920s, professional team sports such as baseball and football had long since established themselves as part of the business world, with "regulatory bureaucracies, marketing strategies, a managerial ethos, profit orientation, an obsession with victory, specialization of function, an emphasis on statistics, and an insistence on meritocratic values."[13] Many of these characteristics also permeated athletics at the high school level, where informal football matches in parks and fields gave way to interscholastic games that were organized and officiated by adults. Ensuring that only eligible students participated in competitions, providing adult and institutional supervision for matches, and implementing rule changes (such as adding a third official) had helped make the sport "more palatable" to school officials and parents concerned about the safety and suitability of tackle

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[10] "Football—Why Not Make it Safe?" *Christian Science Monitor*, December 10, 1909.

[11] "Lift Ban From Football: Board of Education Decides to Permit the Game Under New Rules," *New York Times*; September 15, 1910. Some of these rule changes, which were adopted by the American Intercollegiate Football Rules Committee in May 1910, included prohibiting pushing, pulling, and interlocking interference and reducing the length of games to four 15-minute quarters. See John M. Carroll, *Red Grange and the Rise of Modern Football* (Urbana: University of Illinois Press, 1999), 30-31.

[12] Students sometimes welcomed and sometimes resisted increasing faculty control of their sports teams. Jeffrey Mirel, "From Student Control to Institutional Control of High School Athletics: Three Michigan Cities, 1883-1905," *Journal of Social History* 16;2 (1982): 83-100; Robert Pruter, "Chicago High School Football Struggles, the Fight for Faculty Control, and the War Against Secret Societies, 1898-1908," *Journal of Sport History* 30;1 (2003): 47-72.

[13] Elliot J. Gorn, *The Manly Art: Bare-Knuckle-Prize Fighting in America* (Ithaca: Cornell University, 1986), 180-181.

football for young players.[14] By the 1923–1924 school year, only three states lacked statewide oversight of interscholastic contests.[15]

Figure 1. Ypsilanti, Michigan, High School Football Team, 1908[16]

[14] Jane E. Good, *High School Heroes: A Century of Education & Football at Annapolis High School, 1896-2003* (Bowie, MD: Heritage Books, 2004), 43. By 1929, the widespread adult management of school athletics had attracted criticism even from education officials. The New York State Director of Health Education complained that "adults ought never to take things into their own hands—that is they should not manage interschool sports for pupils, as is done almost universally to-day. The scholastic league controlled entirely by adults is an adult activity." Frederick Rand Rogers, *The Future of Interscholastic Athletics* (New York City: Teachers College, Columbia University, 1929), 85.

[15] Missouri, Nevada and Tennessee. Lewis Hoch Wagenhorst, *The Administration and Cost of High School Interscholastic Athletics* (New York: Columbia University, 1926).

[16] Ypsilanti Historical Society Photo Archives. "1908 Ypsilanti High School Football Team." University of Michigan Library Digital Collections. Accessed: August 26, 2015 at http://quod.lib.umich.edu/y/yhsic1/x-502/yhs00502. The Sigma Delta that appears on one of the student's jerseys represents a high school fraternity founded in 1894. Image courtesy of the Ypsilanti Historical Society.

This chapter introduces this public health history of youth football by reviewing the development of high school football before World War II, followed by the increase in youth football that emerged in the postwar era. At the convergence of suburbanization, the consolidation of schools, postwar prosperity, and increasing high school attendance, youth football grew in popularity. Children younger than high school age were also increasingly playing tackle football outside school, primarily through privately organized leagues such as the Pop Warner youth football league. Although critics worried about the impact of this trend on children's health and safety, the social climate moved in the other direction, toward the expansion of youth football, as well as other organized competitive team sports such as baseball and ice hockey. The threat of communism during the Cold War inspired increased calls for improved physical education reflected in public discussion as well as policy decisions, such as Eisenhower's executive order to establish a President's Council on Youth Fitness. Football was presented as a solution to a perceived fitness and moral crisis, including gendered fears that boys needed exposure to a "rough" sport in order to avoid becoming effeminate.

Growth of Youth Football in the Progressive Era

Interscholastic sports were increasingly seen as part of the educational mission of secondary schools during the early twentieth century. Historian S.W. Pope has observed that the trend in physical education away from gymnastics and toward athletic sports reflected "the new educational psychology of John Dewey (and others), who believed that children should learn from experience." Many educators interpreted competitive team athletics as offering students the practical opportunity to experience the "rules of life," namely victory and defeat, in a way that other physical activities could not. As historian Brad Austin characterized this reasoning, "where better could students experience the thrills of success and the agony of failure than on the athletic

fields and courts?"[17] In addition, progressive and religious leaders particularly promoted football as a means to instill moral values in boys, which in turn would improve their academic performance. In 1904, the Reverend A. E. Colton of the American Bible Society wrote that his son left his high school football season

> in prime condition for the hardest kind of tackling and protracted endeavor with languages, physics and mathematics. Thus we gladly pay tribute to the great game which is doing so much for developing our young men physically and morally, preparing them for the hard grinding battles of coming days.[18]

[17] S.W. Pope, *Patriotic Games: Sporting Traditions in the American Imagination, 1876-1926* (New York: Oxford University Press, 1997), 128; Brad Austin, *Democratic Sports: Men's and Women's College Athletics During the Depression* (Fayetteville, AR: University of Arkansas, 2015), 89. See also Catherine D. Ennis, "Curriculum: Forming and Reshaping the Vision of Physical Education in a High Need, Low Demand World of Schools," 58 *Quest* (2006): 41-59.

[18] A.E. Colton, "What Football Does," *Independent* 57 (September 15, 1904), 605-07. For a discussion of Colton's letter and how its litany of football-produced virtues "blurred the line between the sacred and the secular," see Mark Dyreson, "Regulating the Body and the Body Politic: American Sport, Bourgeois Culture, and the Language of Progress, 1880-1920," In: *The New American Sport History: Recent Approaches and Perspectives*, ed. S.W. Pope (Urbana, Ill.: University of Illinois Press, 1997), 121-144.

Figure 2. Holt High School Football Team, Holt, Michigan, 1929[19]

Interscholastic sports received further justification during World War I as a means to meet national defense needs and foster physical fitness among citizens. In January 1917, President Woodrow Wilson told a delegation from the Maryland and Massachusetts League for National Defense that "unquestionably, physical training is needed . . . . but it can be had without compulsory military service."[20] Adopting the president's statement as their slogan, a newly formed Committee for Promoting Physical Education in the Public Schools of the United States

[19] Examples of the leather headgear players wore are displayed in front of the kneeling players. Many of the players are also visibly wearing shoulder pads. Holt-Delhi Historical Society, "History of Holt Varsity Football," accessed December 18, 2015 at http://holtdelhihistoricalsociety.webs.com/history. Image courtesy of the Holt-Delhi Historical Society. Jacob McCormick, President of Holt-Delhi Historical Society, email to author, December 18, 2015.

[20] "Wilson's Ire Roused: Rebukes Defense League's Attack on the National Guard," *Washington Post*; January 26, 1917.

sought to introduce physical education without military features in public schools.[21] Chaired by John Dewey of Columbia University and composed of a number of other leading educators, this committee placed a model bill before the general assemblies of California, Indiana, and Connecticut in 1917. By 1923, 32 states had passed legislation requiring physical education as part of the high school curriculum.[22] By 1930, 22 states had state directors of physical education.[23]

John Dewey's committee explicitly characterized physical education as essential to American citizenship, stating in the preamble to their 1917 model bill: "We believe the time has come when the public schools can, and should, enter deliberately and purposefully upon a definite plan for the preparation of our youth physically for the exigencies of life and for all the demands of citizenship."[24] Organized athletic competitions were portrayed as a means to instill teamwork and responsibility in boys, contributing to "the building up of character of the manhood of America."[25] Daniel Chase, the first president of the New York State Public High School Athletic Association, recalled drafting 14 points of "Good Sportsmanship" in 1920, to be printed in all of the association's earliest handbooks. These included that a good sport should

[21] "Leading Educators Press For Physical Training in Public Schools," 22:2 *American Physical Education Review* (1917): 113. For a discussion of the history of sports and fitness in the American military during and after World War I, see Wanda Ellen Wakefield, *Playing to Win: Sports and the American Military, 1989-1945* (Albany, NY: State University of New York Press, 1997).

[22] William J. Meadors, *The History of the National Federation of State High School Athletic Associations.* (D.P.E. Thesis, Springfield College, 1970), 83.

[23] Mabel Lee, *A History of Physical Education and Sports in the U.S.A.* (New York: John Wiley & Sons, 1983), 166. See also the appendix on page 367 for a list of early state directors of health and physical education.

[24] "Leading Educators Press For Physical Training in Public Schools," 22:2 *American Physical Education Review* (1917): 113.

[25] H.P. Silver, "Sports for Character Building," *American Physical Education Review* 32;5 (1927): 345-348.

play for the joy of playing, be a good team worker, accept adverse decisions gracefully, congratulate the winner, back his team in every honest way, and play hard until the end.[26]

In 1926, Chase left the State Department of Education to serve as the executive director of the recently formed International Sportsmanship Brotherhood. A *New York Times* profile of this organization also emphasized the character-building nature of sports, asserting that sportsmanship had educational value that would translate to the business world. "But can any one [*sic*] doubt that a fine sense of honor on the links or an inward compulsion to do the fair thing on the playing field will find its expression in the vocations, in dealings between employer and employee or in transactions in business? Were this not true the games and sports of a nation would make but little contribution to character."[27] Such notions of sportsmanship and fair play were considered essential in justifying the educational value of athletic competition. As one administrator put it, to the extent that educators emphasized "fair play" and trained boys in habits of sportsmanship, "the schools contribute much toward making [students] co-operative members of society."[28]

Some administrators feared school athletics had become far too popular. George D. Strayer and N.L. Engelhardt of Columbia Teachers College asserted that football had taken on an unhealthy level of importance in high schools and in universities: "Athletic contests have come to occupy the time and attention of the pupils in the schools and of the community in general in a

[26] Daniel Chase, "The Early Days of the NYSPHSAA, 1921-1926," *New York State Journal of Health, Physical Education and Recreation* 13:2 (1960): 29-34.

[27] "The Sportsmanship Brotherhood," *New York Times*; November 4, 1925.

[28] John M. Booth, "An Investigation in Interscholastic Athletics in Northwestern High Schools," *The School Review* 36;9 (1928): 696-706.

manner most unwholesome for the contestants and for the spectators as well."[29] In particular, the nature of youth sports as a public spectacle for adults worried educators who feared that the educational value of athletics was being warped. As Frederick Rand Rogers, the New York State Director of Health Education, wrote in 1929,

> When adults insist upon spending their leisure time watching children at play, and not through any interest in the children themselves except as actors on a stage, the wisdom of a culture which provides the leisure is open to serious indictment. Probably the remedy lies in more education. But any education which accustoms *adolescents* to spectacles of *adults excited over adolescent athletics* is an unhealthy form of training for the children. The school must solve its problems more effectively if it is to save itself.[30]

These early concerns about the spectacle nature of contact sports, particularly football, would persist throughout the twentieth century. Such anxieties underscored the remarkable popularity of high school and college athletic contests in communities. During the 1920s and 1930s, men's intercollegiate athletics not only became firmly established in the administrative structure of universities, but became a key source of entertainment, revenue, and "a focal point for student and alumni loyalty."[31] Throughout the first decades of the twentieth century, the status of college football made the sport ripe for satire. In 1906, American satirist Ambrose Bierce quipped that *academe* could be defined as "an ancient school where morality and philosophy were taught," but an *academy* was "a modern school where football is taught."[32]

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[29] George D. Strayer and N.L. Engelhardt, Editors' Introduction to: Frederick Rand Rogers, *The Future of Interscholastic Athletics* (New York City: Teachers College, Columbia University, 1929), vii.

[30] Frederick Rand Rogers, *The Future of Interscholastic Athletics* (New York City: Teachers College, Columbia University, 1929), 31 (footnote 13).

[31] Richard A. Swanson and Betty Spears, *History of Sport and Physical Education in the United States* (Dubuque, Iowa.: WCB Brown & Benchmark, 1978), 213.

[32] Ambrose Bierce, *The Cynic's World Book* (New York: Doubleday, Page & Company, 1906), 9-10. Bierce's work of humorous definitions of common English words would later be published as *The Devil's Dictionary.*

Such biting satire also made its way into the movies. Notably, in 1932, the Marx Brothers' film *Horse Feathers* lampooned the outsized and corrupting role of football in higher education. In the movie, the new president of fictional Huxley College, Quincy Adams Wagstaff, portrayed by Groucho Marx, asserts that "this college is a failure. The trouble is we're neglecting football for education." He further states that the university can't support both the college and football, so "tomorrow we start tearing down the college." The scene offers a trenchant and hilarious take on the incredibly, even absurdly, prominent role of football on college campuses.[33]

Limited finances during the Great Depression, followed by wartime restrictions during World War II, circumscribed the growth of high school extracurricular activities, including athletics. If anything, the increasing challenge of funding school athletics, conjoined with prominent student deaths, left football more vulnerable to safety-related criticisms. Indeed, the 1931 death of Cadet Richard Brinsley Sheridan Jr. of a broken neck, sustained while playing college football for the Army team, prompted "the most violent excoriation football has been subjected to since 1905,"[34] with commentators questioning whether boys and young men should play the sport at all. The *New York Herald Tribune* reported on calls "to the very heavens for revision and emasculation [of football] to a point where young men, who are expected to amount to something in the world of business and affairs in time to come, can be permitted to participate."[35] The belief in football's ability to prepare young players for future business careers

[33] Daniel A. Nathan, "I'm Against It!": The Marx Brothers' *Horse Feathers* as Cultural Critique; or, Why Big-Time College Football Gives Me a Haddock," in *All Stars & Movie Stars: Sports in Film & History*, ed. Ron Briley, Michael K. Schoenecke, and Deborah A. Carmichael (Lexington, KY: The University Press of Kentucky, 2008): 40-54.

[34] Allison Danzig, "Sweeping Changes Made in Football: Rules Committee Acts to Lessen Hazards," *New York Times*; February 16, 1932.

[35] "Sheridan Death Called Evidence of Football Evils," *New York Herald Tribune*; October 29, 1931.

was threatened by Sheridan's death. The sport needed to be altered and "emasculated" in order to retain its educational value, and such a process would involve addressing the spectacle nature of the sport in schools. The *New Haven Register* editorialized that a complete survey of football injuries and deaths among students should "silence the most rabid fanatic, who today shouts: 'Play the game! Take what's coming to you and smile!'"[36]

The fatal injury had occurred while Sheridan was making a flying tackle head-on, a dangerous method of tackling that was also considered "one of football's most spectacular sights." In response to the outcry over Sheridan's death, the Intercollegiate Football Rules Committee, chaired by coach E. K. Hall, introduced "the most far-reaching modifications adopted in the playing rules of the game in a quarter of a century." The changes, intended to reduce the hazards of the game, included making the flying block and tackle illegal, allowing more frequent substitutions, and forbidding players from striking opponents on the head, neck, or face. Sportswriter Allison Danzig observed that the supportive response of coaches, officials, and athletic executives to these rule changes "reflected the belief that something constructive had been done to reduce the risks of the game without working any radical change in the character of the play."[37]

[36] The *New York Herald Tribune* reprinted a significant portion of this editorial, concluding: "The long list of young men injured, some fatally, many in a manner which may later develop weaknesses that will have to be carried throughout life, actually cries aloud for action: it stands mute witness to the ugly cruelty of football as played today." "Sheridan Death Called Evidence of Football Evils," *New York Herald Tribune*; October 29, 1931.

[37] Allison Danzig, "Sweeping Changes Made in Football: Rules Committee Acts to Lessen Hazards," *New York Times*; February 16, 1932. As Chairman of the Football Rules Committee, E.K. Hall had previously warned the American Football Coaches Association of the need "to preserve the many good features of the game [football] in all their wholesomeness for the boys of the coming generation . . . . This is not a business, it's a game—a schoolboy game." E.K. Hall, "The History and the Making of Football Rules. Certain Dangerous Tendencies in Football," *American Physical Education Review* 31; 7 (1926): 927-933.

In the fall 1932 season, the first season after these new changes had taken place, the *New York Times* reported on ten football-related deaths, all but one of which had occurred in high school, prep, or sandlot games. The newspaper observed that "just as last year's toll came mainly through head injuries, so do the deaths reported so far this season bear out the necessity for protective measures against this type of accident. Particularly do these injuries seem to occur on the high school gridiron." While the new 1932 safety code appeared to have reduced injuries and deaths at the college level, the rule changes had "failed to eliminate the hazards to prep school, high school and sandlot combatants."[38] The risks for child athletes persisted, and the debate over the educational value of football for students continued.

In fact, a number of administrators and coaches characterized the Depression as an opportunity to refocus school athletics on the wellbeing and development of students. Among them was renowned football coach Glenn Scobey "Pop" Warner, who was widely acclaimed for his coaching record, particularly his experience coaching football star Jim Thorpe at the Carlisle Indian School. The many innovations he is credited with introducing to the sport of football include tactics such as the huddle, the idea of numbering plays, the body block, the double-wing formation, the spiral pass, and the spiral punt.[39] Echoing President Franklin Roosevelt's call for "a new deal for the American people," in 1933 Warner wrote an article for the *Saturday Evening*

[38] "Toll in Football to Date Totals 10: 9 Deaths Resulted From Play on High or Prep School Gridirons or Sandlots," *New York Times*; October 25, 1932.

[39] Reet A. Howell and Maxwell L. Howell, "The Myth of 'Pop Warner': Carlisle Revisited," 30; 1 *Quest* (1978): 19-27; David Wallace Adams, *Education for Extinction: American Indians and the Boarding School Experience, 1875-1928* (Lawrence, KS: University Press of Kansas, 1995), 182. Adams examines the political and cultural meanings of the extraordinary Carlisle football story in the context of the boarding school experience, observing that for the school's leadership, football was a means to "winning support for the idea that Indians, if given the opportunity, were capable of competing with whites not only on the football field but in society as well." The establishment of a football team at the Carlisle Indian School in the late nineteenth century will be discussed further in chapter five.

Post proposing a "new-deal code to restore normal, sane conditions to college and school athletics, and to football in particular."[40]

According to Warner, the transformation of football into a big business designed to generate money for academic institutions had warped the purpose of amateur athletics. To rectify the situation, he argued that "we should revalue athletics in terms of the good they can do for the athletes themselves."[41] This would involve "deflating" high school and college football. Provided that football could be kept a sport and not a business, Warner expressed his hope and expectation that football would "thrive more than ever as the great American sport, with every able-bodied youngster playing it, even in his grammar-school days."[42] Even this sharp critic of the over-commercialization of athletics, then, envisioned football as being appropriate not only for high school and college students, but for even younger children.

In his history of the rise of American high school sports, Robert Pruter has argued that "high school sports were essentially put on hold" during the 1930s and early 1940s.[43] While high school football remained popular, limited funds generally hampered the expansion of existing athletic programs, and in some regions, attendance diminished. In Pennsylvania, some high schools reduced the price of admission to football games from a dollar to fifty cents, yet crowds

[40] Glenn S. "Pop" Warner, "Football's New Deal," *Saturday Evening Post*; October 7, 1933.

[41] *Ibid*, 83. See also "Football As Big Business," *Kansas City Star*; October 5, 1933.

[42] Glenn S. Warner, "A Football Coach Looks the Game Over," *New York Times*; November 13, 1932. By "every able-bodied youngster," Warner referred, of course, only to able-bodied boys. Schools typically did not offer contact team sports for girls. For a history of women's physical education in the United States, see Martha Verbrugge, *Active Bodies: A History of Women's Physical Education in Twentieth-Century America* (Oxford, UK, University of Oxford Press, 2012).

[43] Robert Pruter, *The Rise of American High School Sports and the Search For Control, 1880-193* (Syracuse: Syracuse University Press, 2013), 315.

declined nonetheless as many fans still could not afford the reduced prices.[44] Tight budgets were even blamed for serious football injuries and deaths attributed to inadequate supervision, facilities, and equipment.[45]

Although the Great Depression limited funding for athletics during this period, New Deal programs helped build the infrastructure that would contribute to making football a ubiquitous sport in high schools across the United States. Throughout the duration of the Works Projects Administration program (WPA), workers built or improved nearly 3,300 stadiums, grandstands, and bleachers, and about 5,600 athletic fields. In fact, in 1946 the WPA acknowledged in its final report that there was "an early tendency to overbuild" parks and recreational buildings, given that such facilities "furnished a ready use for WPA labor."[46] Many of these stadiums were designed for high school football, frequently using a football-track combination design which included a quarter-mile running track surrounding the football field.[47]

Such stadium construction projects not only provided much-needed work in local communities, but also were consistent with popular ideals about masculinity and civic autonomy. For example, in 1938, the WPA financed the construction of Oakley High School Stadium in

[44] Paul J. Zbiek, "The Importance of High School Sports in Northeastern Pennsylvania: Scholastic Football in the Wyoming Valley," in *The History of Northeastern Pennsylvania: The Last 100 Years* (Nanticoke, PA: Luzerne County Community College, 1989), 24-41.

[45] "False Economy of School Boards Blamed for Football Casualties," *New York Herald Tribune*; November 21, 1935.

[46] WPA: Federal Works Agency, *Final Report on the WPA Program, 1935-1943* (Washington, DC: U.S. Government Printing Office, 1946), 50. See also Steven A. Reiss, *City Games: The Evolution of American Society and the Rise of Sports* (Urbana: University of Illinois Press, 1989), 142.

[47] This football-track combination design had already been identified as "the most common and probably the most successful of all" stadium designs by the 1920s. "Football is unquestionably the game which now has more general interest for spectators in this country than any other." Gavin Hadden, "Stadium Design," *American Physical Education Review* 31;9 (1926): 1004-1018. While a complete assessment of all WPA stadiums specifically designed for football is not available, the University of California Berkeley's *Living New Deal*, an ongoing project to map New Deal funded projects across the United States, provides detailed information about 126 stadiums in their database. http://livingnewdeal.org/new-deal-categories/parks-and-recreation/stadiums/ Accessed May 19, 2015.

Oakley, Kansas. The stadium would go on to be used to host football games and track meets continuously since workers completed work in 1939. The team of unskilled laborers, made up of local farmers who were struggling financially, built the stadium to include a standard 100-yard football field encircled by a 400-meter track.[48] The construction by men of football stadiums in local communities, intended for the use of men and boys to engage in athletic competitions, fit with WPA narratives that affirmed masculine civic respectability. As Holly Allen has observed in her examination of gendered New Deal narratives, "highly visible, tangibly productive, and affirming of project workers' masculinity, construction projects dominated the rhetoric and iconography of federal work relief."[49] Football stadiums were one way to affirm workers' self-reliance, masculinity, and local autonomy in the face of widespread unemployment and an expanding federal government. Such construction projects also legitimized competitive sports as "wholesome" leisure activities, as well as a means to provide labor of value to society.[50]

After the United States entered World War II, additional constraints further threatened school sports. Facing gas rationing, difficulty in retaining coaches, and other restrictions, some schools resorted to unprecedented measures to maintain their high school football programs. In Pennsylvania, Bell Township High School administrators hired a woman to coach their football team, garnering attention from national media. The *New York Times* described Miss Pauline

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[48] Valerie Brown-Kuchera, Jerrik Keller, Kyndal Maurath, and Levi Hefner, "National Register of Historical Places Registration: Oakley High School Stadium," National Park Service, May 20, 2011. Accessed June 9, 2015 at http://www.nps.gov/nr/feature/places/pdfs/13000150.pdf

[49] Holly Allen, *Forgotten Men and Fallen Women: The Cultural Politics of New Deal Narratives* (Ithaca: Cornell University Press, 2015), 32.

[50] John Wong, "FDR and the New Deal on Sport and Recreation," *Sport History Review* 29 (1998): 173-191. See also Judith Anne Davidson, "The Federal Government and the Democratization of Public Recreational Sport: New York City, 1933-1945," (Ph.D. dissertation, University of Massachusetts, 1983.)

Rugh as "probably the nation's first feminine football coach."[51] She had never played football and "accepted her duties only after no man could be found for the position," explained the *New York Times*.[52] Rugh nonetheless had her own athletic background and accomplishments, with a degree in physical education from Penn State, where she had been a badminton champion. She told the *New York Times* that she had always enjoyed and followed the game of football, "although I certainly never intended to coach it."[53] Her team's 47-0 loss in its opening game left notions that football should be the province of men unchallenged, and also provided local media the opportunity to marvel at "a picture of ultra-femininity on the bench along the white-chalked sidelines."[54]

More commonly, however, schools chose to curtail their team's football schedule, reduce the size of their coaching staff, or temporarily suspend their football programs.[55] By the end of 1942, the National Federation of State High School Athletic Associations estimated that about 5 percent of the nation's schools had dropped their football programs, 25 percent had reduced their coaching staffs, and 35 percent had limited travel connected with football team schedules.[56] At Seward Park High School, a public school on New York City's Lower East Side, over 800 students went "on strike" to protest the loss of their team, indicating the importance many

[51] "Girl to Coach Football," *New York Times*; August 20, 1943. See also Paul Zbiek, "Coal, Steel and Gridiron: Scholastic Football in the Pittsburgh Area," In: *Pittsburgh Sports: Stories from the Steel City*, ed. Randy Roberts (Pittsburgh, University of Pittsburgh Press: 2000); 214-242.

[52] "Introducing the Wartime Football Coach," *New York Times*; September 10, 1943.

[53] "Girl to Coach Football," *New York Times*; August 20, 1943.

[54] "'Feminine Touch' Gets Rude Jar as Girl Coach Loses Opener, 47-0," *The Pittsburgh Press*; September 12, 1943.

[55] Paul Zbiek, "Coal, Steel and Gridiron: Scholastic Football in the Pittsburgh Area," In: *Pittsburgh Sports: Stories from the Steel City*, ed. Randy Roberts (Pittsburgh, University of Pittsburgh Press: 2000); 214-242. For example, see "War Depletes Coaching Staffs of 6 of 15 D.C. High Schools," *The Washington Post*; August 17, 1942.

[56] The Associated Press, "5% of U.S. High Schools Drop Football," *The Washington Post*; December 31, 1942.

students attached to the high school football program. However, the principal of the school, Dr. Samuel Streicher, defended the decision as a wartime necessity. He told the *New York Times* that he had explained to members of last year's team "that the suspension was inevitable and a war sacrifice that they would have to make."[57]

Yet high school football by no means ceased during this period, and neither did concerns over the sport's safety. In 1942, Dr. Logan Clendening, a nationally known physician and medical historian with a syndicated health column published in 383 daily newspapers, questioned the safety of high school football in his column. Without citing sources for his statistics, he asserted that boys who played high school football had a 1 in 4 chance of getting injured and a 1 in 5 chance of receiving a permanent injury that would last a lifetime, such as loss of teeth, a dislocated knee, or a fractured pelvis. Boys had a 1 in 1,000 chance of dying and a 1 in 10,000 chance of having a leg amputated if they played football in high school, he continued. Dr. Clendening claimed that college players were at lower risk of injury due to having more mature bones and access to better protective equipment. Consequently, he argued that football should be prohibited for high school students until at least their senior year. To any coaches who disliked his views, Dr. Clendening warned that football coaching was in itself a hazardous occupation, with coaches at risk for heart failure.[58]

[57] "Students 'Strike' Over Ban on Football Team," *New York Times*; September 18, 1943.

[58] Logan Clendening, "Will Your Boy Be Injured in High School Football?" *The Washington Post*; August 27, 1942. Clendening's 1927 popular book *The Human Body* sold approximately a half million copies, and he engaged in correspondence with American author Ernst Hemingway, who called him "one hell of a fine guy." For Dr. Clendening's career, see Ralph H. Major, "Obituary: Logan Clendening, 1884-1945," *Bulletin of the Medical Library Association* 33;2 (April 1945): 257-259; Paul Smith, "The Doctor and the Doctor's Friend: Logan Clendening and Ernst Hemingway," *The Hemingway Review* 8;1 (Fall 1988): 37-39.

Despite wartime limitations and such ongoing medical critiques, youth football persisted, and many schools continued to benefit financially from cash receipts from football games.[59] Spectators continued to flock to big games: in 1937, Chicago's annual Prep Bowl match drew an estimated 120,000 fans, "making it one of the largest crowds for any sporting event in the United States, at any time, on any level."[60] With the end of World War II, high school football surged in the context of increasing prosperity, high school attendance, and suburbanization.[61] In postwar southwestern Pennsylvania, for example, as area coal mines closed, schools in nearby towns lost enrollment, and nearly all became involved in school district mergers.[62] This consolidation of smaller school districts into larger, and often more suburban, districts influenced the game.[63]A larger student body might facilitate the formation of a football program or make an existing program more competitive. For instance, James F. Byrnes High School was created as the

[59] "High School Football Nets Gratifying Financial Total," *The Washington Post*; December 1, 1938.

[60] Jerry Shnay, "50 Years and 120,000 Fans Ago," *Chicago Tribune*; November 27, 1987. In a 1937 letter to the *New York Times*, reader Marvin Rosen explained that the large crowd at this particular game could be partially attributed to the charity nature of the event, with proceeds going toward food and clothing to the needy. Further, he believed that the high attendance reflected the drawing power of a star boy athlete, student Bill DeCorrevont. "Right through the season, games in which this young football hero played have drawn crowds ranging from 8,000 to 15,000 in comparatively small stadia. The average high school game in Chicago seldom attracts more than 1,500." Marvin Rosen, "Record Attendance: Explains Large Crowd at School Football Game in Chicago," [Letter to the Sports Editor," *New York Times*; December 4, 1937.

[61] In 1945, 78 percent of boys and girls aged 14-17 years old were enrolled in school. By 1960, the enrollment rate for this age group had reached 90 percent. The number of students aged 14-17 enrolled in school during this same period increased from 6,956,000 to 10,240,000. National Center for Education Statistics, *120 Years of American Education A Statistical Portrait*, ed. Thomas D. Snyder (Washington, DC: U.S. Department of Education, 1993). Accessed June 9, 2014 at http://nces.ed.gov/pubs93/93442.pdf. High school was also increasingly accessible to working class students. "In 1930, for example, about 50 percent of working-class students attend high school. By the early 1960s, this figure was estimated at over 90 percent." James Gilbert, *A Cycle of Outrage: America's Reaction to the Juvenile Delinquent in the 1950s* (Oxford: Oxford University Press, 1986), 18.

[62] Roger B. Saylor, *Scholastic Football in Southwestern Pennsylvania, 1892-1982* (Enola, PA: Roger B. Saylor, 1983).

[63] This trend had begun before World War II and continued after the war ended. The number of school districts was reduced from 117,000 in 1939 to 66,452 in 1953. See Samuel Miller Brownell, "Education is Everybody's Business," *Proceedings of the 1954 National Convention of the American Association for Health and Physical Education*, April 18-23, New York, NY. (Washington, DC: American Association for Health, Physical Education, and Recreation: 1954), 22-32.

eventual result of the reorganization and consolidation of multiple schools in Spartanburg County, South Carolina, in 1950. The new high school opened in 1955 and kicked off its first football season that same year.[64] Furthermore, in expanding, wealthier districts, additional funding supported increasingly sophisticated football programs with such amenities as weight rooms, football stadiums, and summer training camps.[65]

Historian Michael Oriard argues that, in the 1940s and 1950s, magazine profiles of "football towns" produced a generic image of small town high school football which implicitly symbolized "idyllic small-town America everywhere."[66] Yet even depictions of such football towns acknowledged the "big business" aspect of football in these communities. For instance, a 1946 profile of the White Plains (New York) High School football team opened by observing the enormous economic influence of the sport: "Elevation of football at the White Plains High School to virtually a college level, with adults thronging the $2,500,000 stadium, has given to the sport such fiscal status that it is the chief support of all extra-curricular activities, educators said today."[67]

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[64] Zachary Johnson, *Byrnes High School Football: Rebels Gridiron History* (Charleston, SC: The History Press, 2010), 25.

[65] Paul Zbiek, "Coal, Steel and Gridiron: Scholastic Football in the Pittsburgh Area," In: *Pittsburgh Sports: Stories from the Steel City*, ed. Randy Roberts (Pittsburgh, University of Pittsburgh Press: 2000); 214-242. In Spartanburg County, South Carolina, some administrators of the newly formed District 5 preferred not to spend money on a new football field for the newly created James F. Byrnes High School. Drury M. Nixon, Jr., the superintendent, however, felt strongly that a field should be located on the school's campus, and won over enough support for the construction of Nixon Field at the high school. The football stadium came with a $75,000 price tag. Zachary Johnson, *Byrnes High School Football: Rebels Gridiron History* (Charleston, SC: The History Press, 2010), 30.

[66] Michael Oriard, "Football Town under Friday Night Lights: High School Football and American Dreams" *Rooting for the Home Team Sport, Community, and Identity*, ed. Daniel A. Nathan (Urbana: University of Illinois Press, 2013), 68-79.

[67] "Football Now is a Major Factor in the Life of White Plains High," *New York Times*; November 14, 1946. Only a few years later, the *New York Times* reported that White Plains would modify its football program by instituting new policies, such as limiting students to six semesters of athletics so that a boy could not deliberately postpone

Critics of the commercialization of football worried about the impact on children's health as well as their education. In a 1952 commentary for the *Saturday Evening Post*, former high school football coach Don Group charged schools with neglecting the physical welfare of student football players, stating that "some schools don't even go through the motions of safeguarding the boys."[68] He decried the failure of many high schools to implement basic precautionary measures, such as having a team physician under contract to treat injured players. Asserting that schools were "exposing boys, through negligence, to crippling injuries," Group argued that "big-time football" was harming high school students.

Despite such critiques, by the 1950s, the business of high school football was booming, sometimes even to the perceived detriment of other sports. The general manager of the Cleveland Indians baseball team reportedly felt that the appeal of playing college football among high school boys was "robbing baseball of promising material."[69] As Bob Harrell, who coached Texas high school and college football teams from 1938 to 1963, recalled, "After the war football just took off, and there weren't enough coaches to go around."[70] H. V. Porter, secretary of the National Federation of State High School Associations, estimated that in 1950-1951 approximately 9,000 high schools participated in football, with about 600,000 high school boys playing the sport.[71] According to the National Center for Education Statistics, 3,568,000

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graduation in order to continue playing football. "White Plains High to Curb Football," *New York Times*; December 17, 1948.

[68] Don Group, "I'm Through With High-School Football!" *The Saturday Evening Post*; October 11, 1952, 86.

[69] "Football Robbing Baseball of Material, Greenberg Says," *The Baltimore Sun*; March 30, 1952.

[70] Ty Cashion, *Pigskin Pulpit: A Social History of Texas High School Football Coaches* (Austin, TX: Texas State Historical Association, 1998), 148.

[71] H.V. Porter, "Symposium: 1950-1951 Athletic Picture," *The Journal of the American Association for Health, Physical Education, and Recreation*. 21;8 (1950): 32.

American boys aged 14 to 17 were enrolled in high schools in 1950.[72] These figures suggest that roughly 1 in 6 American boys enrolled in high school at midcentury played football.

Citizens Fit for a Dangerous World

Some of the growth of youth football after World War II had its roots in the promotion of competitive team sports during World War I. In 1917, President Woodrow Wilson had asserted that physical training could occur without military service, inspiring physical educators to draft model physical education bills based on this principle. Nonetheless, concerns over the need for military preparedness, as well as concerns about the need for fit citizens to successfully serve the country and address national challenges even in peacetime, continued to inform the debate over physical education. At times, football was promoted as means to unite countries and avert war. Writing for the *Athletic Journal*, Professor E. W. McDiarmid of Texas Christian University expressed optimism that football could foster "world-wide mutual understanding and comity." Referring to the Roman god of war, he observed in 1935 that as the American sport began to enter Japan, "football enters and (let us hope) Mars will take a back seat."[73]

More commonly, however, school administrators, faculty and coaches promoted competitive sports as a means to prepare young American men against international threats, including war. A 1940 address to the American Football Coaches Association provides a particularly clear example of the relationship promoted between competitive athletics and national defense. William Lewis Mather, president of Lafayette College in Pennsylvania, spoke to the football coaches' 35th convention with the NCAA. Speaking on "Athletics and National

[72] National Center for Education Statistics, *120 Years of American Education A Statistical Portrait*, ed. Thomas D. Snyder (Washington, DC: U.S. Department of Education, 1993). Accessed June 9, 2014 at http://nces.ed.gov/pubs93/93442.pdf

[73] E. W. McDiarmid, "An Apology for Intercollegiate Athletics," *The Athletic Journal* 15;8 (1935): 40-42.

Defense," Mather explicitly connected competitive athletics, and in particular football, to national defense. He stated that far more challenging than addressing the particular rules of football or any other sport, would be "the development of a generation of young men who have the red blood, who have the stamina, who have the loyalty, to protect the American way of life." No more effective group to meet this challenge existed than the coaches and administrators of college football and other sports, Mather continued. Observing that France had fallen to Germany that year because of "weakness within," Mather argued that athletic departments had a responsibility to build up "clean manhood" in order to help preserve civilization. Whether or not the United States would ultimately enter World War II, "there isn't a chance in the world that the boys in your gymnasiums, in your locker rooms, will not be called upon, when they graduate, to participate in a tremendous economic and social and political conflict forced upon us by the totalitarian powers."[74]

Advocates for physical education and athletic programs pointed to major world events and geopolitical strife as evidence for the need to promote physical fitness and strength among students. Through initiatives such as Hale America and Operation Fitness USA, from the 1940s through the 1960s the U.S. government partnered with "corporate, nonprofit, civic and religious organizations to advance the importance of physical fitness as both an individual and a patriotic necessity for men, women, and children."[75] In the 1950s, the threat of communism further inspired calls for improved physical education as an urgent matter of national interest and

[74] William Lewis Mather, "Athletics and National Defense," (address, 35th Convention of the National Collegiate Athletic Association and the American Football Coaches Association, New York, NY, December 30, 1940), 3-4.

[75] Jaime Schultz, *Qualifying Times: Points of Change in US Women's Sport* (Urbana: University of Illinois Press, 2014), 85.

national defense. Notably, in 1954, Clifford Lee Brownell, the president of the American Association for Health, Physical Education and Recreation, told the association that:

> The struggle in Indo-China has again brought us face to face with many crucial problems. The world situation has focused attention upon the general failure of our schools to provide adequate programs of physical education, health education, and recreation . . . . In the high schools are the young men and young women who will become the workers and defenders of the nation tomorrow.[76]

Anxieties over the fitness of American youth were further heightened by a 1954 article finding that American schoolchildren fared poorly on a measure of muscular fitness as compared to European children.[77] In a 1955 article for *Sports Illustrated*, sportswriter Robert Boyle described the media and political response to these research findings, dubbing the publication "The Report That Shocked the President."[78] Indeed, President Eisenhower invited Dr. Hans Kraus and Ms. Bonnie Prudden, coauthors of the study, to a White House luncheon to discuss their report.[79] In her remarks, Prudden, director of the Institute for Physical Fitness at White Plains, NY, told the president, celebrity athletes, sports officials, and other attendees:

> American mothers are afraid of their children hurting themselves. This is a Band-aid society. If a child breaks an arm, the arm may be in a plaster cast six weeks. That is not a

[76] Clifford Lee Brownell, "Report to the Profession," *Proceedings of the 1954 Convention of the American Association for Health, Physical Education and Recreation,* April 18-23, New York, NY. (Washington, DC: AAHPER, 1954), 13.

[77] Hans Kraus and Bonnie Prudden, "Minimum Muscular Fitness Tests in School Children," 5:2 *Research Quarterly* (1954); 178-198. This test of strength and flexibility of leg muscles was given to 4,264 American schoolchildren and 2,870 European children. 57.9 percent of the American children failed the test, as compared to 8.7 percent of the European children. See also Mabel Lee, *A History of Physical Education and Sports in the U.S.A.* (New York: John Wiley & Sons, 1983), 231.

[78] Robert H. Boyle, "The Report That Shocked the President," *Sports Illustrated*; August 15, 1955.

[79] In addition to President Eisenhower, some of the guests at the luncheon included Vice President Nixon, Navy football coach Eddie Erdelatz, Army football coach Earl Blaik, NFL football player Ralph Gugliemi, and Major League Baseball Commissioner Ford C. Frick. Jack Walsh, "Condition of Youth Alarms Eisenhower," *The Washington Post and Times Herald*; July 12, 1955.

> catastrophe. The catastrophe is that so few opportunities for adventure remain to children—and the few that do remain are often curtailed by overanxious parents.[80]

At the President's Conference on Fitness of American Youth convened in June 1956, Vice President Nixon warned attendees that "we are not a nation of softies" but could become one "if proper attention is not given to the trend of our time, which is toward the invention of all sorts of gadgetry to make life easy and, in so doing, to reduce the opportunity for normal health-giving exercise."[81] In response to the concerns raised at these meetings, on July 16, 1956, President Eisenhower issued an executive order to establish a President's Council on Youth Fitness.[82]

Both Prudden and Nixon's comments framed this 1950s "fitness crisis" in gendered terms. They portrayed a picture of overanxious mothers hovering over their children with Band-Aids, potentially rendering their sons' childhoods overly secure and feminized. These comments were part of a wider discourse about overprotective mothers that was influenced in particular by American author Philip Wylie. A novelist who had first achieved fame with works of science fiction, Wylie subsequently turned his pen to works of non-fiction. He critiqued social mores in several polemical books which "straddle[ed] a number of different genres." In 1942, Wylie's best-selling book *Generation of Vipers* popularized the term "momism," defined by the Oxford

[80] Robert H. Boyle, "The Report That Shocked the President," *Sports Illustrated*; August 15, 1955. For more on Bonnie Prudden's work on physical fitness, including authoring dozens of fitness columns for *Sports Illustrated* and developing fitness classes and exercise equipment, see Jonathan Black, *Making the American Body: The Remarkable Saga of the Men and Women Whose Feats, Feuds, and Passions Shaped the Fitness Industry* (Lincoln, NE: University of Nebraska Press, 2013).

[81] Leonard Buder, "Fitness Meeting Opened by Nixon," *New York Times*; June 19, 1956.

[82] Matthew T. Bowers and Thomas M. Hunt, "The President's Council on Physical Fitness and the Systematization of Children's Play in America," *International Journal for the History of Sport* 28;11 (2011): 1496-1511.

English Dictionary as "excessive attachment to, or domination by, the mother."[83] Doctors and commentators and scientists referenced and expanded on this notion in the popular press, warning of the dangers of domineering mothers stifling their children's growth. As one psychiatrist wrote in the *Saturday Evening Post,* "One can have little patience with these moms who worry constantly and needlessly about the health of healthy children . . . . Undue solicitude on mom's part is harmful."[84]

Thus, mothers were blamed not only for the illnesses and injuries and their children suffered, but also for being unduly protective.[85] By preventing their children from taking risks and enjoying healthy youthful "adventures," these mothers placed American youth, particularly boys, at risk of becoming unfit "softies." Tackle football was a sport for men and boys that, by seeking to exclude feminine influence, would protect boys from becoming such "softies." While mothers were called upon "to embrace domesticity in service of the nation," fathers were expected to encourage their sons to take risks and have adventures.[86] Fathers were typically assigned responsibility for preventing their children from becoming a "sissy," which Dr. Luther E. Woodward, coordinator of the New York State Health Commission, defined as a child "who

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[83] David Seed, "The Postwar Jeremiads of Philip Wylie," *Science Fiction Studies* 22; 2 (July 1995): 234-251; Rebecca Jo Plant, *Mom: The Transformation of Motherhood in America* (Chicago: University of Chicago Press, 2010), 21. See especially chapter 2, "Debunking the All-American Mom: Philip Wylie's Momism Critique," for a detailed discussion of Wylie's portrayal and critique of momism.

[84] Dr. Edward A. Strecker, "What's Wrong With American Mothers?" *Saturday Evening Post,* October 26, 1946, 88.

[85] Mothers were blamed for being both overly emotional and protective, as well as not emotional or loving enough. For instance, during this period autism was attributed to "refrigerator mothers" who were supposedly cold, emotionally distant and insufficiently nurturing. This thesis remained popular until the 1970s. Jeffrey P. Baker, "Autism in 1959: Joey the Mechanical Boy," *Pediatrics* 125 (2010): 1101-1103; Adam Feinstein, *A History of Autism: Conversations With the Pioneers* (London: Wiley-Blackwell, 2010). See also Sarah S. Richardson et al., "Don't Blame the Mothers," *Nature* 512 (2014): 131-132.

[86] Elaine Tyler May, *Homeward Bound: American Families in the Cold War Era,* 20th anniversary edition (New York: Basic Books, 2008), 98.

gets too much satisfaction from what his mother does for him and not enough from what he does for himself."[87] On this view, fathers needed to encourage their children to take risks and limit mothers' influence if necessary.[88] The term *sissy* was homophobic; football was not just about making boys into men, but making boys into straight men. Indeed, in the 1960s satirist Russell Baker would dub young men uninterested in sports as being "asportual," writing that the great majority of such men "live in shame of their peculiar tastes and seek to conceal them by pretending to enjoy sports as much as the normal man."[89]

The function of American football in promoting a particular vision of masculinity was so obvious that across the Atlantic, British correspondent Don Iddon found in football the perfect target to mock American athletes' pretensions to toughness. Whenever "American football players in their outlandish padded costumes and helmets appear on an English screen, the audience hoots with laughter," he wrote. To the British, he claimed, such protective equipment represented not toughness, but cowardice and weakness. He placed the blame for such "pampering and effeminacy," of course, squarely on American mothers. "The colossal cult of the American 'Mom' and her mawkish devotion to her 'boys' are sapping the fiber of the American athlete."[90]

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[87] Samuel Middlebrook, "The Importance of Fathers," *Parents Magazine*; December 1947, 28, 78. Cited in Elaine Tyler May, *Homeward Bound: American Families in the Cold War Era,* 20th anniversary edition (New York: Basic Books, 2008), 140.

[88] Steven Mintz and Susan Kellogg observed that "it seems clear that the underlying source of anxiety pervading child-rearing manuals during the postwar era lay in the fact that mothers were raising their children with an exclusivity and in an isolation without parallel in American history." Steven Mintz and Susan Kellogg, *Domestic Revolutions: A Social History of American Family Life* (New York: The Free Press, 1988), 190.

[89] Russell Baker, "Observer: The Muscular Opiate," *New York Times*; October 3, 1967.

[90] Don Iddon, "American Athletes Are Sissies," *Coronet*; February 1952, 34-37. *Coronet* was a general interest magazine owned by *Esquire* and published from 1936 to 1961. See S. Sreenivas Rao, "Why Coronet Failed," *Journalism & Mass Communication Quarterly* 42;2 (1965): 271-272.

Boys' efforts to avoid the stigma of being considered a sissy, as manifested in the sport of football, alarmed some medical practitioners. Dr. William Brady, who wrote a health column for the *Los Angeles Times*, warned that this fear of being perceived as a sissy was "the ruling spirit of high school football," and caused players to obey coaches' orders to the point of harming their own well-being. He recounted a story of a boy who had sustained a concussion while playing football, but who did not reveal that he suffered a constant headache for fear that he would be perceived as a sissy. The child athlete's parents only learned of his symptoms when his vision began getting blurry, and he ultimately had to spend a month in the hospital. Brady concluded, "In my judgment no high school boy should play football—especially not interscholastic or varsity football, and certainly not under the guidance, training or influence of an outside coach."[91]

Similarly, in a 1958 article examining the dangers of high risk sports, journalist John Lagemann warned that "the greatest danger of permanent deformity comes from the sports injury which is concealed because the child is afraid of being called a sissy by his coach and his fellow players." Lagemann then recounted the tale of 12-year-old "Billy C.," who bumped heads with another player during tryouts for a junior high school football team. Billy told nobody of the resulting pain in his neck, continued to play for weeks, suffered another collision, and ultimately had to spend six weeks in traction after an X-ray revealed that he had a dislocation of the first cervical vertebra.[92]

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[91] William Brady, "Study Badly Hurt Averting 'Sissy' Title," *Los Angeles Times*; December 11, 1952.

[92] John Kord Lagemann, "How High-Pressure Sports Can Hurt Your Child," *Redbook,* July 1958, 36-39, 52. Lagemann's article both quoted health professionals and drew their attention. The *American Journal of Public Health* published a brief write up of this article. "Credit Lines: Little League Baseball—Questions," *American Journal of Public Health* 48; 9 (1958): 1294.

Such voices of caution, however, had little effect on the popular view that boys needed to become "tough" and experience a certain amount of risk, especially given that this view was promulgated at the highest levels in the presidential fitness programs of the 1950s. Indeed, one columnist observed that boys anxious to convince their skeptical mothers to allow them to play football would likely "make full persuasive use of the fact that the President has come out strongly in favor of more competitive sports among youth."[93] Football and other contact sports offered boys the opportunity for physical contact in a modern world where gadgetry made life "too easy" for growing boys. "I believe that competitive body contact sports are good for America's young men," Vice President Nixon would later tell the American Football Coaches Association at a 1958 luncheon.[94]

Nixon spoke of football from personal experience. He had been an avid, though not especially gifted, football player. A childhood friend, Gerald Shaw, recalled that Nixon "used to be the dummy for everybody to tackle. He wasn't coordinated enough for a football player. He had two left feet, I think."[95] He served as "scrimmage cannon fodder" at Fullerton Union High School, and similarly was never more than a third-string substitute on Whittier College's football team.[96] Nonetheless, Nixon persisted and attached great importance and meaning to his participation, and invoked the experience in crafting his public persona. He would later write in his memoirs that his happiest college memories involved sports, and that his football coach deeply influenced his life, recalling,

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[93] Dorothy Barclay, "Competitive Sports: The Pros and Cons," *New York Times*; August 28, 1955.

[94] "Third-String End Honored Guest at Football Coaches' Luncheon," *New York Times*; January 9, 1958.

[95] Roger Morris, *Richard Milhous Nixon: The Rise of an American Politician* (New York: Henry Holt and Company, 1990), 92.

[96] *Ibid*, 133.

> Ever since I first played in high school, football has been my favorite sport. As a 150-pound seventeen-year-old freshman I hardly cut a formidable figure on the field, but I loved the game—the spirit, the teamwork, the friendship . . . . I think that I admired [Coach Wallace "Chief" Newman] more and learned more from him than from any man I have ever known aside from my father.[97]

President Eisenhower, who had played football at West Point, similarly pointed to his own athletic experience as evidence of its importance, and also believed that football in particular helped train men to become leaders. He would later observe, "I believe that football, almost more than any other sport, tends to instill into men the feeling that victory comes through hard—almost slavish—work, team play, self-confidence, and an enthusiasm that amounts to dedication."[98] The belief in football's ability to train young bodies and minds was therefore explicitly endorsed by several American presidents, as well as by football coaches and administrators.

The organizers of youth football also framed the sport in terms of promoting the "American way of life" and protecting the United States from foreign threats. Football could meet this need not only in schools, but also in external organizations such as the Pop Warner Conference. National Pop Warner registration certificates stated that coaches would agree to comply with the conference's standards "along lines of Scholarship, Sportsmanship and Safety First Football as a medium of inspiring the nation's youth in the American Way of Life."[99] A

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[97] Richard Nixon, *RN: The Memoirs of Richard Nixon* (New York: Gosset & Dunlap, 1978): 19.

[98] Dwight D. Eisenhower, *At Ease: Stories I Tell to Friends* (Garden City, NY: Doubleday, 1967): 16. Eisenhower, of course, was not the only American president to extol the unique virtues of football. In 1894, future president Woodrow Wilson asserted that football "develops more moral qualities than any other game of athletics." In 1900, President Theodore Roosevelt famously used football as a metaphor in giving the following advice to American boys: "In short, in life, as in a football game, the principle to follow is: Hit the line hard; don't foul and don't shirk, but hit the line hard!" "Football or No Football," *New York Times*; February 18, 1894; Theodore Roosevelt, *The Strenuous Life: Essays and Address* (New York: The Century Co., 1900): 164.

[99] "Registration Certificate National Pop Warner Conference," provided to Dave Vannicelli, school year 1962-1963. Dave and Mary Vannicelli Collection, King of Prussia Historical Society, King of Prussia, PA. This certificate was

1959 *Los Angeles Times* story on Pop Warner football opened by claiming that "today, as an acceptance to the challenge to our American way of life, we have the National Pop Warner Conference teaching physical condition, religious tolerance and economic freedom principles to more than half a million youths in the country annually."[100]

How could the sport of football instruct young athletes in "economic freedom principles"? The competitive nature of football was portrayed as preparing boys to succeed in competitive, free market economic systems, while its nature as a team sport would prepare boys to cooperate with colleagues in their professional futures. A 1960 report on school athletics, published by a commission of the National Education Association and the American Association of School Administrations, asserted: "We believe that cooperation and competition are both important components of American life."[101] Vice President Nixon emphasized the importance of experiencing competition and failure as preparation for adult life: "Young Americans need the fighting spirit, the determination, the team work and the discipline which competitive athletics inevitably instill . . . . Our young men are going to enter a competitive world where they experience failure as well as success. Let's not kid ourselves, they won't be properly prepared for life if they have been shielded from the disappointment of a failure."[102]

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signed by Joseph J. Tomlin, founder of the National Pop Warner Conference, and by Joseph A. Donoghue, secretary of the Philadelphia Eagles Football Club.

[100] Dick Hyland, "Pop Warner Conference Carries on Principles of Football Coach," *Los Angeles Times*; December 17, 1959.

[101] Educational Policies Commission, *School Athletics: Problems and Policies* (Washington: Educational Policies Commission of the National Education Association and the American Association of School Administrators, 1954); 3.

[102] "Third-String End Honored Guest at Football Coaches' Luncheon," *New York Times*; January 9, 1958. Other competitive sports were also characterized as a means to defend the American way of life. For a discussion of how Little League baseball was promoted "as a valuable tool in the Cold War struggle against Communism" during this period, see Michael H. Carriere, "'A Diamond is a Boy's Best Friend': The Rise of Little League Baseball, 1939-1964," *Journal of Sport History* 32;3 (2005): 351-378.

Football, then, would prepare boys to succeed as adults working in the American free market system. As David Wallace Adams observed in his examination of football at the Carlisle Indian Industrial School, football was "an ideal forum for creating the new American man—half Boone, half Rockefeller."[103] Imparting American values through competitive team sports such as football might thus lessen the dangers of socialism and other threats to American security. Indeed, opposition to competitive sports was even conflated with support for the USSR, and football was highlighted as a particularly wholesome way to lessen the threatening appeal of communism. For example, in 1958, radio commentator Bill Stern asserted that boys "like to hoot and holler and wave pennants and if they can't do it at the football stadium you may well be sure that they will do it in the party cell."[104]

Claims about the moral benefits of youth football were related to a host of ideological beliefs about freedom and masculinity in American society. One important and persistent view, implied by Stern's quote above, was that boys had an extraordinary amount of youthful energy and instincts that could only be satisfied by vigorous, even violent, contact sports. According to this belief, non-contact sports, even ones that might require significant physical exertion, simply would not suffice. As one Ohio high school football coach put it, football provides "a wholesome outlet" for the "tremendous energy" of boys. "You can't channel this sort of energy into passive

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[103] David Wallace Adams, "More Than a Game: The Carlisle Indians Take to the Gridiron," *The Western Historical Quarterly* 32;1 (2001): 25-53.

[104] Russ Crawford, *The Use of Sports to Promote the American Way of Life During the Cold War,* (Lewiston, New York: The Edwin Mellen Press, 2008): 178-179.

pursuits such as chess or stamp-collecting, and the explosive urge cannot be completely satisfied by such otherwise wonderful sports as golf and tennis."[105]

Even educators concerned about the risks of football shared the assumption that non-contact sports could not satisfy this physical need. In response to a high incidence of serious football injuries, educators at Purdue University sought an alternative, less hazardous sport, while "realizing that a successful program of intramural sports needs at least one contact game." To address this need, assistant professor George Haniford advocated "American ball," a sport created in 1934 as a combination of elements of baseball, basketball, and football, as a suitable and safer alternative. Writing for the journal *Recreation*, Haniford acknowledged that American ball was not well known, but encouraged readers to consider it.[106] Emphasizing the point that this purportedly safer sport nonetheless fulfilled players' need for physical contact, a quote from military psychiatrist William C. Menninger introduced the article: "Competitive games provide an unusually satisfactory social outlet for the aggressive drive. The most aggressive outlet is seen in those sports in which there is bodily contact."[107]

The assumption that competitive contact sports filled a necessary biological need for men was generally conjoined with the view that women did not experience such needs. Indeed, this assumption permeated not only defenses of the sport of football as necessary for boys and men,

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[105] Charles Mather, "A Brief for High School Football," 21:2 *Scholastic Coach* (April 1952): 32-36. This belief in sports as an outlet for the physical energy of boys was longstanding. In 1931, Dr. Joseph H. Burnett wrote that properly supervised football "gives boys a natural outlet for their nervous energies and keeps them off the streets, thereby avoiding many mishaps, such as automobile, motor-cycle and trolley car injuries, and others too numerous to mention." Joseph H. Burnett, "Survey of Football Injuries in the High Schools of Massachusetts," *The Journal of Health and Physical Education* 2;8 (October 1931): 32-33, 50.

[106] George W. Haniford, "New Body-Contact Game Offers Fewer Hazards," 46:5 *Recreation* (October 1952): 303-304.

[107] William C. Menninger, "Recreation and Mental Health," 42: 6 *Recreation* (November 1948): 340-346.

but furnished an explanation as to why such sports were not considered desirable or appropriate for women and girls. As philosopher Paul Weiss would later write a 1969 examination of sports, "Most women do not make the effort to train or to participate because they are not subject to the tensions that young men suffer . . . . The women have already achieved a satisfying integration of mind and body."[108]

Coaches and educators argued not only that football fulfilled a necessary physical need, but also that the competition in some sense protected boys. The sport certainly fit in with broader efforts to use organized activities to prevent juvenile delinquency or street crime. For instance, in 1948, Dr. Walter Boyd organized the Long Beach Junior Football League for boys aged 14 and under in order "to get the boys off the streets."[109] Writing for the *Athletic Journal* in 1951, an assistant high school football coach asserted, "A boy on a football field is a boy off the street and out of trouble."[110] A 1949 *Saturday Evening Post* story highlighted the ability of football to foster boys' moral well-being and enrich their relationships with their parents. The article profiled a youth football program at the Cleveland Park Dad and Son Athletic Club where fathers

[108] Paul Weiss, *Sport: A Philosophic Inquiry* (Southern University Illinois Press, 1969), 220. While Weiss's examination of sports undoubtedly reflected numerous popular assumptions about sports and gender, academic philosophers were not impressed by his analysis. One reviewer objected to the "insulting" characterization of how men and women use their bodies differently, and panned the book: "In a phrase, the book is an unbelievably tiring array of little tidbits of bad analysis . . . . The most odious portion of the book is the chapter on women athletes . . . . He who is fond of either sport or philosophy can save himself from a thoroughly distasteful experience by avoiding Weiss's book." Joseph S. Ullian, "Sport: A Philosophic Inquiry" [Review] 70;10 *The Journal of Philosophy* (1973): 299-301. On how beliefs about sex differences influenced the separate development of physical education programs for boys and girls in the late nineteenth and early twentieth century, Martha Verbrugge, *Active Bodies: A History of Women's Physical Education in Twentieth-Century America* (Oxford, UK, University of Oxford Press, 2012).

[109] Joan Bescos, Junior Grid Loop Gives Boys Boost, *Los Angeles Times*; November 6, 1957. For an examination of beliefs about juvenile delinquency in the United States in the 1950s, see James Gilbert, *A Cycle of Outrage: America's Reaction to the Juvenile Delinquent in the 1950s* (Oxford: Oxford University Press, 1986).

[110] Lou Thom Howard, "Midget Football for the Junior High School Boy," 33; 10 *Athletic Journal* (June 1953): 35, 37-38.

coached football and scrimmaged with their sons. The program's founder, Larry Conant, explained that "boys have a herd instinct" and that paternal involvement could channel that instinct and provide boys with an appropriate role model. "The whole parent-child relationship is improved, for here are . . . . status and mutual respect between child and adult."[111]

Football was presented as offering a unique opportunity to impart moral virtues that would ultimately protect them from greater hazards than a knock or two on the field. Columbia University football coach Lou Little asserted, "I think it's dangerous for boys *not* to play football. Nowadays, particularly, when so much courage, moral and physical, is demanded of our sons."[112] According to this view, exposing boys to a certain amount of risk would benefit their mental and physical health. Developing moral and physical courage would enable children to face the challenges of the modern world. In fact, competitive sports would benefit children by teaching them to endure a certain amount of pain, and that "it does not hurt to get hurt."[113] Rough bodily contact at younger ages was also justified in preparing boys to continue to play sports as they grew older. "The body contact actually makes the youngsters better equipped for play in interscholastic and collegiate competition as they attain maturity."[114] An improved ability to compete in high school and college football, then, was considered to be a worthwhile goal in itself.

Pre-High School Football in the 1950s

[111] Hugh Morrow, "Does He Rate Some of Your Time?" *Saturday Evening Post;* January 8, 1949, 25.

[112] Lou Little, "Teach Your Boy to Play it Safe," *Baltimore Sun*; September 26, 1954.

[113] Dorothy Barclay, "Competitive Sports: The Pros and Cons," *New York Times*; August 28, 1955.

[114] Clyde Snyder, "Hard but Safe-Hitting Midget Grid Lines Bring Cheers From Parents," *Los Angeles Times*; November 17, 1957.

The belief in the merits of high school football had overwhelmed concerns that the sport might adversely affect older adolescents' health, or that large crowds of spectators cheering on student athletes might be inappropriate in an educational venue. In fact, football had grown so immensely popular that some observers could not foresee it expanding any further. The authors of a 1951 study on the cultural diffusion of the sport speculated that "it may be that football has reached the apex of its audience appeal."[115] Yet this speculation was quickly disproved as the numbers of both spectators and participants continued to increase. A significant portion of this growth consisted of an expansion of the sport to increasingly include pre-high school aged children.

While high school football was enormously popular, however, younger players were much less likely to play in junior high or elementary school settings. Educators were reluctant to host competitive athletics for prepubescent children. Administrators were not only concerned about safety, but also about the expense of administering a football program relative to the number of students who would be able to participate. As one school principal remarked, "Boys of this age are not ready physically or emotionally for intense competition, and a program for a few cannot be justified in terms of the amount of time and money required."[116] During the 1950s and 1960s many professional medical and education groups expressed their disapproval of any highly organized sport, including football, for young children.[117] A notable 1952 report

[115] David Reisman and Reuel Denney, "Football in America: A Study in Cultural Diffusion," *American Quarterly* 3;4 (1951): 309-325.

[116] Joseph Constantine Lease, "A Survey of the Attitudes and Practices of the Administrators and Coaches in the State of California Concerning Interschool Tackle Football at the Junior High School Level," MA Thesis (Sacramento, CA: California State University, 1962).

[117] Jack W. Berryman, "From the Cradle to the Playing Field: America's Emphasis on Highly Organized Competitive Sports for Preadolescent Boys," *Journal of Sport History* 2 (1976): 112-131.

published by a joint committee of the American Association for Health, Physical Education, and Recreation recommended against any "interschool competition of a varsity pattern" for children below the ninth grade.[118]

In his comments to journalists on the report, however, Simon A. McNeely, the committee's chair, was nonetheless concerned that the committee might be perceived as overly cautious or as spoilsports. He told an Associated Press reporter, "I'd like to have the idea emphasized that we're for sports and we're for competition. I don't want people thinking we're a bunch of fuddy-duddies."[119] In their report, they encouraged alternative and less competitive forms of physical activity, including sports days and informal games.[120] But consistent with the broader concerns about the dangers of an overemphasis on winning, a 1950 survey found that the majority of elementary schools offered no competitive athletics for their students, and none of the schools surveyed offered any competitive sports below the fourth grade level.[121]

Educators were more open to offering competitive sports at the junior high school level. A survey of interscholastic athletics during the 1957-1958 school year, to which 2,329 junior high schools responded, found that slightly more than 85 percent offered interscholastic athletics.[122] Despite the ubiquity of athletic programs at this level, however, junior high school

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[118] Joint Committee on Athletic Competition for Children of Elementary and Junior High School Age, *Desirable Athletic Competition for Children: Joint Committee Report* (Washington: American Association for Health, Physical Education, and Recreation, 1952), 4.

[119] Arthur Edson, "Educators Tee Off on Kids' Leagues," *The Washington Post*; December 19, 1952.

[120] *Desirable Athletic Competition for Children*, 3.

[121] Jack W. Berryman, "From the Cradle to the Playing Field: America's Emphasis on Highly Organized Competitive Sports for Preadolescent Boys," *Journal of Sport History* 2 (1976): 112-131.

[122] Joint Committee on Standards for Interscholastic Athletics, *Standards for Junior High School Athletics; Report of the Junior High School Athletics Subcommittee of the Joint Committee on Standards for Interscholastic Athletics* (Washington: American Association for Health, Physical Education, and Recreation, 1963), 7.

administrators were only slightly less reluctant than their elementary school counterparts to permit tackle football for students of this age. Notably, a 1962 survey of junior high school administrators in California found that a majority believed that tackle football was not desirable for junior high school students, although three quarters of respondents favored interscholastic athletics at this level.[123]

In fact, respondents to this survey singled out tackle football as being uniquely worrisome among options for competitive athletics. "All things considered, the consensus of opinion of the coaches at the junior high level seems to be that, except in the case of tackle football, interscholastic athletic competition is a beneficial part of the physical education program."[124] Respondents considered that tackle football required greater supervision, protective equipment, and coaching than other sports, and that junior high schools were not able to supply the necessary support. Only 15 percent disagreed with the statement that many schools could not afford the equipment and facilities needed "to make participation in this type of competition relatively safe for their players." One respondent wrote that tackle football "requires a great deal of specialized coaching as no one should play football unless the fundamentals have been taught rather completely."[125] Such comments suggested that administrators considered football too expensive, complicated, and unsafe to offer at the junior high school level. Consistent with these

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[123] Joseph Constantine Lease, "A Survey of the Attitudes and Practices of the Administrators and Coaches in the State of California Concerning Interschool Tackle Football at the Junior High School Level," MA Thesis (Sacramento, CA: California State University, 1962).

[124] Joseph Constantine Lease, "A Survey of the Attitudes and Practices of the Administrators and Coaches in the State of California Concerning Interschool Tackle Football at the Junior High School Level," MA Thesis (Sacramento, CA: California State University, 1962), 96.

[125] *Ibid*, 71, 76.

attitudes, the survey found that only 20 percent of junior high schools in the state of California competed in tackle football.

School-based tackle football programs for children before they reached high school remained relatively limited. Yet voluntary sports organizations outside the school grew at a remarkable pace. In 1952, the professional journal *Recreation* reported the conclusions of a joint Committee on Highly Organized Competitive Sports and Athletics for Boys Twelve and Under. The committee noted that most of the increase in organized sports that had prompted their work had occurred outside the school system.[126] In emphasizing the complexity of the subject, the committee identified some of the most notable organizations on the youth sports scene. "Clearly, no one study or research project will produce noncontroversial evidence that Little League, Pop Warner, Biddy Basketball or any of their home-grown counterparts are overwhelmingly 'good' or 'bad.'"[127]

And when it came to organized youth football, the Pop Warner Football League was an extraordinary force. Founded in Philadelphia in 1929 by Joseph Tomlin, a former high school football player, in 1934 this football league was named after Pop Warner, the famous and influential football coach.[128] Although initially the league's players were predominantly older teenagers and adults, during World War II, the Pop Warner Football Conference lost most of its older players to the military draft. As many of its teams folded or merged, the league's finances

[126] "Are Highly Competitive Sports Desirable for Juniors?" *Recreation* 46 (1952): 422-426.

[127] "Are Highly Competitive Sports Desirable for Juniors?" *Recreation* 46 (1952): 422-426.

[128] Allen Guttmann, "The Progressive Era Appropriation of Child's Play," *Journal of the History of Childhood and Youth* 3;2 (2010): 147-141. Donna St. George, "Joseph J. Tomlin, 85, Pop Warner Founder," *Philadelphia Inquirer*; May 18, 1988. Accessed April 26, 2014 at http://articles.philly.com/1988-05-18/news/26261295_1_youth-football-program-tomlin-first-junior-football-league

suffered as well. But after the war the league rebounded, fielding 88 teams in 1946, of which 36 had players aged 15 or younger.[129] Its membership was shifting toward younger players, as many returning adult service members abandoned playing football.[130]

In 1947, Joseph Tomlin opened a national office in order to establish Pop Warner football programs in Washington, Baltimore, and New York.[131] In 1956, the Pop Warner Conference decided to become an exclusively youth football association, allowing only boys aged 16 and under to participate, and with a particular emphasis on children beginning at age 13 and under.[132] League organizers hoped to expand beyond the Philadelphia community and build a national football league for youth players, modeled in many ways on the success of Little League Baseball for youth baseball players.[133] In the 1950s the league grew beyond Pennsylvania when teams were established in Northern and Southern California.[134] By 1957, the *New York Times* reported that approximately 266 cities had engaged in Pop Warner football that year.[135]

In 1959, the conference was reorganized and legally incorporated as "Pop Warner Little Scholars, Inc.," a new name which reflected its focus on young players and projected an

[129] Glenn S. Warner and Mike Bynum, *Pop Warner, Football's Greatest Teacher: The Epic Autobiography of Major College Football's Winningest Coach, Glenn S. (Pop) Warner* (Birmingham, Ala.: Gridiron Football Properties, 1993).

[130] Joel D. Balthaser, *Pop Warner Little Scholars* (Portsmouth, NH: Arcadia Publishing, 2004): 17.

[131] Francis J. Power, *Life Story of Pop Warner: Gridiron's Greatest Strategist* (St Louis, MO: C.C. Spink & Son, 1947).

[132] Joel D. Balthaser, *Pop Warner Little Scholars* (Portsmouth, NH: Arcadia Publishing, 2004): 22.

[133] Glenn S. Warner and Mike Bynum, *Pop Warner, Football's Greatest Teacher*.

[134] Glenn S. Warner and Mike Bynum, *Pop Warner, Football's Greatest Teacher*.

[135] Howard M. Tuckner, "Bowl Football Kick-Off is Tonight," *New York Times*; November 27, 1957.

emphasis on the educational benefits of participation.[136] The league's organizers intended to promote and reward both athletic and academic accomplishments among their "little scholars."[137] The duty of determining whether players met the minimal academic standards to participate was often assigned to one of the team members' mothers. This "grade mother" was placed in charge of "regularly reporting players' grades to the coach; those who slip below a C average are usually banished to the bench."[138]

In fact, the league's expansion and growing popularity in some circumstances helped to overcome longstanding rules limiting tackle football among younger children. For instance, in Los Angeles, Venice High School hosted 1958's first annual Pop Warner Football Bowl championship match. This event broke a 35-year-old Board of Education rule which had prohibited tackle football by pre-high school players on school property.[139] This example also suggests that even if schools were reluctant to permit elementary and junior high school tackle football under their jurisdiction, school officials might allow children to play the sport on school grounds under the aegis of an external league.

Although Pop Warner emerged as one of the largest and most famous football leagues in the country, it was by no means unique, as smaller youth leagues were organized in communities

[136] Glenn S. Warner and Mike Bynum, *Pop Warner, Football's Greatest Teacher*.

[137] Charles Lowenthal, a National Pop Warner Trustee, told the *Los Angeles Times* that Pop Warner coaches must obtain copies of their players' report cards. He added that "Championships and trips to bowl games—we now have 54 of them—are awarded only to the teams with the best scholastic records among the best playing records." Dick Hyland, "Pop Warner Conference Carries on Principles of Football Coach," *Los Angeles Times*; December 17, 1959.

[138] Richard Edward Stuetz, *An Evaluation of the Educational Values of Pop Warner Football with Reference to the General Objectives of Secondary Education* (M.A. Thesis, Chapman College, 1969).

[139] "Youth Teams to Meet in Pop Warner Bowl," *Los Angeles Times*; December 14, 1958.

across the United States by groups such as the local boys clubs or the Catholic Youth League.[140] In 1956, the *New York Times* estimated that over 90,000 children were playing on 2,000 organized "midget" football teams across the United States, for children ranging from 60 pound 7 year olds to 160 pound teenagers. This glowing article on Long Island football attributed the sport's spread to parental realizations that it was "useless" to forbid their boys from playing. "They realize the next best thing to do is to organize the activity, provide competent supervision and buy adequate equipment."[141]

A Sport for the American Nuclear Family: Worried Moms and Coaching Dads

News stories describing the growth of youth football in flattering terms nonetheless had to acknowledge parental concerns, even if only to dismiss them or to suggest they were dissipating. For instance, a profile of the sport in Orange County, California, observed that football for young children was "on the boom in Orange County, and apprehension over whether a boy in his tender years is able to absorb the bumps that go with the game as it is played in high schools and colleges has just about disappeared."[142] A glowing 1958 *Wall Street Journal* article about the increase in spending on sporting goods equipment despite an economic recession sounded one note of caution—sales of youth football equipment. Despite the increasing

[140] "Midget Football League Starts in Newport News," *Norfolk Journal and Guide*; October 17, 1953. "CYO Football League Gets Underway Today," *The Washington Post*; September 20, 1956. The term "midget" was often used generically to refer to youth, although some leagues used the term to specifically refer to a certain age group or size category. For instance, in a 1961 YMCA Pop Warner football league, the "midget" league was limited to boys ages 10 to 13 years old, with a weight limit between 85 and 115 pounds. See Howard Swindell, "Midget Gridders Ready for Big Games," *Chicago Daily Tribune*; October 8, 1961. Similarly, the 1963 Bux-Mont Midget Football League in Pennsylvania include 80-, 95-, and 115-pound teams. "Bux-Mont Midget Football League 1963 Official Schedule," Dave and Mary Vannicelli collection, King of Prussia Historical Society, King of Prussia, PA.

[141] Howard M. Tuckner, "Small Fry Football League on Long Island Still Growing; Supervised Program Much Safer Than Sandlot Games," *New York Times*; November 18, 1956.

[142] Clyde Snyder, "Hard but Safe-Hitting Midget Grid Lines Bring Cheers From Parents," *Los Angeles Times*; November 17, 1957.

popularity of the sport, manufacturers were concerned that parental fears still limited equipment sales in the youth market. "A lurking dread of football still exists in many mothers' hearts and sports manufacturers admit that the major growth in this activity for little tykes is still 'about three or four years away.'"[143]

As this comment about mothers' hearts suggests, equipment manufacturers and promoters of youth football tended to cast parental concerns about safety in highly gendered terms. They attributed much of the apprehension over the sport's safety to fearful or overbearing mothers. This was consistent with a broader trend of assigning mothers the primary responsibility for making decisions about their child's and health safety, a tendency which was further influenced by prevailing gender norms during the 1950s.

These attitudes extended to perceptions of mothers' involvement in youth football. According to this framing, children eager to play football, coaches, and league administrators would all need to persuade these anxious mothers that their boys would not be subject to great dangers while playing tackle football. To illustrate his contention that parents were unreasonably keeping their children "aloof" from the game, a coach recounted the story of a boy who might have played football, but "the boy's mother said she would give him a Thunderbird if he didn't play."[144] This was an extreme example of the supposedly unfair and perhaps futile lengths mothers might go to in order to prevent their child from participating in the attractive sport. One commentator observed that "well-informed youngsters" would plead to be permitted to

[143] C.B. Newman and A.H. Fetherolf, "Sales of Bats, Boats and Other Gear Climb Despite the Recession," *Wall Street Journal*; June 17, 1958.

[144] Bob Holbrook, "Friedman Raps Parents: Brandeis Coach Says Football Makes Men Of Boys," *Daily Boston Globe;* October 28, 1958.

participate in competitive sports despite "whatever mother may envision in terms of split lips or broken collarbones."[145]

Mothers not only needed to be reassured, but needed to be prevented from overly influencing the masculine game. In 1955, team coaches and managers drew up a code of ethics for the Pop Warner Conference which explicitly addressed maternal interference with the sport. A list of behaviors that "intelligent parents" would never engage in included the following: "create a 'Momma's boy' stigma by a mother cuddling her son in front of other player and public with words and gestures."[146] While mothers were expected to keep their distance from their sons playing on the field, the presence of mothers on the sidelines was welcomed as an indication of the sport's safety and support among women. "Mothers who used to be worried when their sons participated in the rough game of football now jam the sidelines and cheer their offspring onto greater effort."[147] Mothers were also encouraged to be involved in supporting the team off the field by providing financial and secretarial assistance. For example, at Niles-McKinley High School in Niles, Ohio, the "Mothers' Club" assisted in preparing the team banquet and providing money for the football program.[148]

In 1959 the *Christian Science Monitor* published an article by a reader, Barbara Fox, describing her experiences as the mother of a seventh grade football player. She described her role as a mother as involving such tasks as cleaning uniforms, repairing damaged football

[145] Dorothy Barclay, "Competitive Sports: The Pros and Cons," *New York Times*; August 28, 1955.

[146] "Youthful Football Players Get Plenty Protection in Pop Warner Conference," *Philadelphia Tribune*; September 20, 1955.

[147] Clyde Snyder, "Hard but Safe-Hitting Midget Grid Lines Bring Cheers From Parents," *Los Angeles Times*; November 17, 1957.

[148] Carl K. Benhase, *Ohio High School Football* (West Nyack, N.Y.: Parker Pub. Co, 1967), 49.

equipment, and driving young football players and cheerleaders to the football field. She concluded, "I can spend my weekends with scrub brush and detergent, working on football pants. And we feel that it is all a real family experience."[149] Similarly, one newspaper profiled a "Pop Warner mom," Hazel Besserer, who exemplified this ideal mother who supported Pop Warner football without threatening the masculine culture on the field. The article described the types of roles considered appropriate for mothers: preparing food and snacks, patching uniforms, listening to recitations of plays, doing clerical work, and putting together the league newspaper. Ms. Besserer described how the different roles of each family member could make Pop Warner football an "all-family deal": "Little sisters act as cheerleaders. Fathers act as head coaches or team fathers. And in addition to dishing out hot dogs (and advice) we gals perform as team mothers."[150] By offering roles for each member of the family, football represented a means by which Americans aspiring to cultural ideals of the suburban, middle-class, heterosexual nuclear family could strive to conform.[151]

Girls who served as cheerleaders for their brothers could also have the opportunity to be judged on their poise, personality, and character. The King of Prussia Indians Football Team's competition for the Queen of the First Annual Indian Bowl was held in 1963. "Here are the young beauties. . . . See how good you are at judging" offered one newspaper account. The girls, aged 9 to 13, were all each a sister of a player on one of the King of Prussia football teams, or a

[149] Barbara Fox, "Football for the Whole Family," *Christian Science Monitor*; November 24, 1959.

[150] Jeane Hoffman, "Football Mom's Life Takes Crazy Bounce," *Los Angeles Times*; October 26, 1960. The tropes of mothers as chauffeurs and sisters as cheerleaders featured commonly in profiles of youth football. "And when the Cleveland Park teams play other boys' outfits in Washington or tackle each other in regular games, the mothers act as chauffeurs and join the sisters in the cheering section." Hugh Morrow, "Does He Rate Some of Your Time?" *Saturday Evening Post;* January 8, 1949, 80.

[151] Elaine Tyler May, *Homeward Bound: American Families in the Cold War Era*, 20th anniversary edition (New York: Basic Books, 2008), 11. On the history of the American family, see also Steven Mintz and Susan Kellogg, *Domestic Revolutions: A Social History of American Family Life* (New York: The Free Press, 1988).

daughter of one of the coaches. In 1963, Deborah Ann Fillman, whose mother coached cheerleaders on the 80 pound football team, won the Indian Bowl Queen Crown. Fillman posed for a photo "between her two comly [*sic*] attendants," who were both sisters of youth football players.[152]

While mothers scrubbed muddy football pants and sister cheered on the sidelines, fathers were responsible for coaching youth players on the field. It was not merely adult supervision that was required to ensure player safety, then, but a particular *male* form of supervision. Male coaches and fathers were responsible for overseeing their sons' safety, but also for making them men. Male authority figures needed to "toughen up" their young charges by exposing them to a certain amount of risk, while also managing that risk so that children were not harmed. On this view, then, a certain level of roughness was beneficial. As a reporter summarized the remarks of one university football coach, "Football is a game designed to make men out of boys. It is healthy for young men to bump heads on Saturday afternoon."[153]

Girls on the Field

If it was healthy for young men to bump heads on a Saturday afternoon, what about young women? Football was framed as the exclusive province of boys and men, and indeed, the sport was justified as being designed specifically to turn boys into men. Yet some girls did manage, at least temporarily, to participate in high school football in the 1940s and 1950s. The

[152] "Who Will Wear Crown at First Indian Bowl?"; "Not a Princess but a Queen," *Montgomery Post*; November 20, 1963; "Mom's a Coach," *Valley Forge Life*; November 21, 1963. Dave and Mary Vannicelli collection, King of Prussia Historical Society, King of Prussia, PA. For a history of cheerleading, see Mary Ellen Hanson, *Go! Fight! Win! Cheerleading in American Culture* (Bowling Green, OH: Bowling Green State University Popular Press, 1995).

[153] Bob Holbrook, "Friedman Raps Parents: Brandeis Coach Says Football Makes Men Of Boys," *Daily Boston Globe;* October 28, 1958.

response to the presence of girls on the football field highlighted underlying assumptions about the nature of the sport, and ultimately reinforced the prevailing view that football was not an acceptable option for girls or women.

In 1947, 16-year-old Frankie Groves played for Stinnett High School's football team in front of a crowd of 3,000 people. The team's coach, Truman Johnson, explained that he had recruited her after seeing her play in a practice game at a school picnic. Coach Johnson told the *New York Times* that three more girls also wished to join the team. Although contemporary news stories marveled that Groves was the first girl to play Texas high school football and that "she didn't even smear her lipstick," Frankie Groves would later remember the more negative reactions from locals who disapproved of her participation. In 1992, she recalled that her presence on the football team embarrassed her family and inspired derision and ridicule. "In the warmups, they sent an ol' boy out on the field dressed in a dress with 'Frankie' written on his back. They went all out to hit me."[154]

The response from league administrators was not welcoming, either. Ruling that Groves had been ineligible to play and portraying her participation as a publicity stunt, the Texas Interscholastic League added a prohibition against girls playing football in its rules for the following season. Groves later told the Houston Chronicle that her father resigned from the school board as a result of the ensuing controversy, that Coach Johnson was fired at the end of the school year, and that for a year her mother was too embarrassed to go out, even to get groceries. A 1979 examination of Texas high school football, *Rites of Fall*, examined how the response to this episode shaped the sport: "Thus was Texas high school football made officially

[154] "Texas Girl Tackle Excels," *New York Times*; November 15, 1947; "Girls Can't Play Football Without Eligibility Slip," *The Washington Post*; December 4, 1947; "'Girl Gridder' recalls high school glory days," *Lawrence Journal-World*; October 22, 1992, p. 7D.

pure and simple: a man's game, reserved for boys. Any feminine involvement would be strictly supportive, in accordance with Texas tradition. It was a decision made, of course, by Texas men."[155]

A Broadway comedy of the 1950s, *Time Out For Ginger,* also explored the possibility of girls playing football. Indeed, playwright Ronald Alexander told the *New York Times* that a news item about a Texas girl who played tackle on a boys' team had inspired the story. Believing that critics and audiences would not accept the notion of a girl playing tackle, however, he decided to alter the premise for his play and "make her halfback on the boys' football team. That was much more logical." A girl playing the position of halfback, which involves carrying the ball on a running play, seemed more consistent with prevailing gender norms. Presumably, a girl running with a ball would be less shocking and threatening than a girl tackling a boy on the football field.[156]

First presented in 1950 as *Season With Ginger,* the play was later edited and retitled before opening on Broadway in 1952 featuring Melvyn Douglas as Ginger's father.[157] In the story, Ginger, inspired by her father's statement that "everybody should be allowed to do what they want to do," decides to try out for her school's football team. The reactions of her family,

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[155] "First Female Football Player in Texas Recalls Glory Days," *The Houston Chronicle*; July 14, 2008; "Girls Can't Play Football Without Eligibility Slip," *The Washington Post*; December 4, 1947; Geoff Winningham and Al Reinert, *Rites of Fall: High School Football in Texas* (Austin: University of Texas Press, 1979), 78.

[156] Ronald Alexander, "Football Playing Girl Found in News Story," *New York Times*; May 10, 1953. The notion of girls playing football was a source of burlesque comedy on Broadway as early as January 1905, when *The College Widower* opened at Weber Music Hall. Comedienne Marie Dressler portrayed Tilly Buttin, the shy, muscular daughter of a boarding-house keeper who is recruited by a college widower to play halfback for a girls' college football team. "Of course, Tilly saves the game," noted the *New York Times* review. "New Burlesque at Weber's Music Hall," *New York Times*; January 6, 1905. See also Matthew Kennedy, *Marie Dressler: A Biography; With a Listing of Major Stage Performances, a Filmography and a Discography* (Jefferson, NC: McFarland & Company, Inc.: 1999): 48.

[157] Joseph Wesley Zeigler, *Regional Theatre: The Revolutionary Stage* (Minneapolis: University of Minnesota Press, 1973), 189.

classmates, and community reflect what an enormously transgressive act her presence in the all-male sport represented, as well as the possible bases from which her parents could come to terms with her decision. In the play, Ginger asserts her freedom of choice and the equality of girls and boys, stating, "Every time one boy wants to insult another, he calls him a sissy. And by that they imply that girls are inferior to boys." When the coach finally puts her in the football game, her team was winning 34-0, but her teammates wanted her in the match so they could arrange for her to score a touchdown. Presumably having a girl teammate score a touchdown against the opposing team would further humiliate their losing opponents. "They were laughing so hard, they fell flat on their faces. I had to score." Ginger's teammates then march with her on their shoulders in victorious triumph. As a result, Ginger remains frustrated that they cannot treat her as simply another football player: "But Mom, they all treated me like something special, not just like anybody carrying the mail."[158]

At the play's conclusion, Ginger reconciles with her boyfriend, and decides to give up the sport: "Being a girl is so much fun, I've decided to give up football." Despite this ultimately reassuring ending consistent with traditional gender roles, critics who enjoyed the comedy nonetheless deemed the notion of a girl football hero highly unrealistic, noting that Ginger "actually reaches that status for a few brief and rather fictitious moments."[159] Another critic, acknowledging that the show was humorous and appealing, nonetheless dubbed it "an utterly far-fetched, silly sort of play," and the show was a hit with the public.[160]

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[158] Ronald Alexander, *Time Out For Ginger* (New York: Dramatists Play Service, Inc.: 1953), 25, 37, 89, 90.

[159] Edwin Schallert, "'Time Out For Ginger' Provides Large Dividends of Laughter," *Los Angeles Times*; November 23, 1954.

[160] Lawrence Perry, "'Time Out For Ginger' A Silly Farce, But It Does Have Sweetness and Humor," *Boston Daily Globe*; November 30, 1952. *Time Out For Ginger* successfully ran on Broadway for 248 performances, and

It is also worth noting that in the play, Ginger's mother Agnes, who ultimately supports her daughter and even hopes she'll be "elected Captain of the team," is the character to voice anxiety about the game's safety. She asks her daughter, "But darling, don't you realize it's a dangerous game? You might get hurt."[161] Even this seemingly unconventional theatrical representation of a girl playing football, then, reflected the prevailing view that mothers specifically were the people most concerned about the physical risks of the sport. And the play was received as an entertaining farce, not as a serious examination of gender roles.

The sporadic instances of girls attempting to play football on boys' teams, as well as artistic representations of such instances, questioned prevailing assumptions about gender. Friends, family, and community members might be outraged, confused, fascinated, or even occasionally supportive of girls' ability to play football. Girls who participated in organized football, however, remained rare and temporary curiosities. Schools did not begin to organize teams for girls, and girls were generally swiftly excluded from football if they attempted to participate. While other sports began to increasingly open their doors for girls and women, football remained almost exclusively a male domain. The associated risks and benefits of the sport, then, continued to be framed in terms of their impact on boys and men.

Throughout the history of the sport, educators and doctors had expressed concern about the risks of tackle football for boys in the United States. The growth of high school football after World War II inspired renewed concerns about the "big business" aspects of the sport and the harm it might cause children. Tackle football's proliferation at even younger ages, an even newer

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subsequently became popular among regional theaters. A television adaptation was broadcast in 1962. See "Time Out For Ginger" in James Fisher, Historical Dictionary of Contemporary American Theater, 1930-2010, vol. 2 (Lanham, MD: The Scarecrow Press, 2011): 808-809.

[161] Ronald Alexander, *Time Out For Ginger* (New York: Dramatists Play Service, Inc.: 1953), 38.

development, fostered a new range of medical and educational concerns, particularly among pediatricians. A scattering of incidents, such as player deaths and newspaper exposés, attracted public attention and prompted proposals for reining in the sport, even among prominent medical and educational professional organizations.

Yet the calls for limits on tackle football were ultimately obscured by the political and social culture of the Cold War. Parental anxieties were repudiated as infantilizing and emasculating boys who needed to be exposed to rough, physical contact. Locking children in nuclear fallout shelters was even presented as the ridiculous and objectionable alternative to allowing boys to tackle one another. "If your boy is or soon intends to be playing high school football, your conscience likely has acid indigestion," one article told parents. "So what shall we do? Build a fallout shelter and confine him to a playpen?" Concerns about the safety of football could be cast as Cold War anxieties and maternal interference run amok. From coaches to American presidents, tackle football was widely celebrated and promoted as a physically and morally beneficial sport for boys. To reassure worried mothers, football's proponents highlighted that the organized sport was carefully supervised by adult men. These supervisors—football coaches and team physicians—were key constituencies involved in framing youth football safety as a medical question, as will be discussed in the following chapter.[162]

[162] Gene Earl, "Laws Protect Young Gridders," *Los Angeles Times*; October 8, 1961.

Chapter Two: "The Duty of Their Elders" – Doctors, Coaches, Parents, and the Framing of Youth Football's Health Risks, 1950s-1960s

"Whenever young men gather regularly on green Autumn fields, or Winter ice, or polished floors to dispute the physical possession and position of various leather and rubber objects according to certain rules, sooner or later somebody is going to get hurt."

--Dr. Thomas B. Quigley, Harvard Medical School, 1959[1]

In 1959, writing for the *Journal of School Health*, Dr. Carl Willgoose, a professor of health and physical education, noted a growing trend of younger football players with some concern. He remarked that in Nassau County, New York, a single village league of the Long Island Midget Football League would attract hundreds of boys to a call for players. "There is a pee wee division for 10 year olds, a junior varsity division for 11 year olds, and a midget division for 12 year olds. . . . Football for younger boys may already be here to stay."[2] Observing that football was becoming a big business even among this younger set of players, and that it raised a new and different set of health and safety questions than other team sports such as baseball, Willgoose expressed uncertainty as to whether the contact sport of football was a "medically sound" option for children. He was concerned not only about physical injuries, such as "disclosed and undisclosed fractures," but also about the emotional health of children playing "under the kind of pressure conditions which involve newspaper displays, athletic editorials, large adult crowds in attendance, and a game tension comparable to high school or college

[1] Dr. Thomas B. Quigley, "Harvard Leads Field in Medical Care of Athletes," *Daily Boston Globe*; November 15, 1959.

[2] Carl E. Willgoose, "Health Implications of Highly Competitive Sports at the Elementary-Junior High Level," *The Journal of School Health* (1959): 224-227.

athletics." Willgoose concluded with a call for additional research to examine whether the health benefits of highly competitive contact sports for young children outweighed the risks.[3]

The popular press was raising similar questions, with articles aimed at worried parents. "He is somewhere between 8 and 14, and he wants to play football. In fact, he is playing football. Is it good for him?" opened a 1955 article published in the *Chicago Daily Tribune.*[4] With more children of this age playing football, this issue was increasingly of public and medical concern. To inform their decisions about whether to allow their child to participate in the sport, parents solicited medical advice, and also looked to educators, football coaches, and sports administrators for their opinion. This chapter examines medical and public health perspectives on the safety of youth football in the 1950s and 1960s, and how these in turn were communicated by doctors and football coaches to parents and the popular press.

Both doctors and football coaches were in particularly important positions to influence perceptions of the risks of youth football. In the early to mid-twentieth century, there was significant overlap between these two groups. Many doctors who conducted early research into football injuries were also involved in supervising the sport, either as coaches, team physicians, or parents. The tension between promoting football and studying its risks influenced the ways many doctors conceived of the sport's dangers, and it constrained the solutions they proposed. As the fields of injury prevention and sports medicine developed as public health and medical specialties, the issue of athletic injuries became increasingly visible, and doctors and coaches both sought to establish their authority on matters of youth football safety.

[3] Carl E. Willgoose, "Health Implications of Highly Competitive Sports at the Elementary-Junior High Level," 225.

[4] Marcia Winn, "Fit the Exercise to the Growing Boy," *Chicago Daily Tribune*; October 20, 1955.

During this period, largely lacking epidemiological data on risk factors for injuries, doctors and coaches instead based their views on the safety of youth football on other sources. These included available tabulations of injuries and deaths, extrapolation of this data to younger populations, clinical experience, personal experience of the sport, or all of the above. On these bases, doctors and coaches also described strategies for making the game safer. Protective equipment featured prominently as a key safety strategy, while medical advice to prevent football injuries frequently focused on adult supervision. Such advice included recommending medical supervision in the form of physical exams and the availability of athletic trainers or physicians to youth teams, as well as the involvement of non-medical adults, namely football coaches and parents, to supervise youth. This emphasis on adult supervision, which I call a "supervisory imperative," necessarily contained an element of self-interest: doctors and coaches argued for expanding the role of doctors and coaches. Yet by the mid-1960s, debates among physicians and coaches over the health risks of youth football would increasingly highlight the inadequacy of existing data and of protective equipment.

Medical Uncertainty

The medical debate over the relative safety of youth football in the 1950s and 1960s was decidedly unsettled. This was not because the existence of deaths and injuries associated with football had been invisible or ignored until this period. Indeed, as we have seen, doctors and football coaches had observed and commented on the health effects of football since its outset. This commentary often emphasized the particular vulnerability of youth in playing a violent sport. For example, pointing to numerous deaths and severe injuries among football players, a 1907 editorial in the *Journal of the American Medical Association* highlighted the deaths at the high school level. Observing that out of the 14 players killed in the fall 1907 season, none had

been over 20 years in age, the editorial concluded that there need be no hesitation "in deciding that football is no game for boys to play."[5]

Through the early decades of the twentieth century, several doctors, often affiliated with schools that had football teams, published medical reports on the football injuries that they had observed in their practices. Physicians who were most likely to observe youth football injuries included orthopedists, surgeons, pediatricians and school physicians. Although colleges were more likely to have a school or team physician than middle or high schools, some affluent high schools also had physicians who looked after their athletes. Other high schools, particularly public high schools, typically did not have the same medical staff or reporting resources of more elite prep schools and colleges. Consequently, youth football injuries were probably greatly underreported, and published injury counts generally did not include injuries sustained by high school players at less affluent high schools. Nonetheless, these counts represent important early efforts at documenting football injuries as a medical concern.

For example, in the 1930s Dr. Thomas N. Horan served as a resident physician at Cranbrook School, a private boys' preparatory school in Bloomfield Hills, Michigan, where 80 percent of the boys played football. In a 1934 article published in *JAMA*, Dr. Horan reported on the number and types of football injuries he had seen in Cranbrook students playing in the previous four football seasons (1930-1933). He observed the most commonly injured regions of the body in this group of players (fingers, hands, ankles, muscles, knees) and offered

[5] "Football Mortality Among Boys," *JAMA* 49 (1907): 2088.

recommendations such as warming up with exercises before games and the use of protective padding and Ace bandages.[6]

At Phillips Academy, an elite preparatory school in Andover, Massachusetts, school physician James Roswell Gallagher also reported on the football and other athletic injuries he had seen. In 1948, Dr. Gallagher described the injuries he had documented among the school's students during a period of seven years, from 1940 to 1947. He reported that varsity level football had the highest incidence of major injuries per player, followed by junior varsity football. Combined, Dr. Gallagher added, these two levels of football averaged more than twenty times as many major injuries per player as did soccer or lacrosse. He wrote that knee and head injuries in football were of particular concern. To prevent knee injuries, Dr. Gallagher suggested calisthenics, taping, and the exclusion of players whose "state of development and linear build" made them vulnerable.[7]

Head injuries, on the other hand, were more difficult to control. "The best in helmets and the proper fitting of helmets is the least, and perhaps the most, that can be done," acknowledged Dr. Gallagher. In this article, Dr. Gallagher insisted that he was not concerned with the relative merits of the particular sports he studied, but rather with documenting the types of injuries one might expect. In fact, however, he had previously expressed concern about the role of football in a school setting. As Heather Munro Prescott has observed in her history of adolescent medicine, Dr. Gallagher felt the physical education department at Phillips Academy was more preoccupied

[6] Thomas N. Horan, "Analysis of Football Injuries," *JAMA* 103;5 (1934): 325-327. Lucian H. Landry, "Injuries Peculiar to Modern Football," *The American Journal of Surgery* 28;3 (1935): 601-612. On Cranbrook School and Dr. Horan's role as resident physician, see "Michigan Fosters Cranbrook Plan," *The Michigan Alumnus* 38 (1932): 445-446, 450.

[7] The age of students in Dr. Gallagher's study ranged from 13 to 18, and included approximately 650 boarding students per year. J. Roswell Gallagher, "Athletic Injuries Among Adolescents: Their Incidence and Type in Various Sports," *Research Quarterly* 19;3 (1948): 198-214.

with creating a winning football team than fostering physical fitness among all its students. Arguing that the program should be redesigned to provide each student with an individualized exercise regimen, Dr. Gallagher had persuaded the headmaster to allow him to take control of the physical education department. The particular needs Dr. Gallagher observed among his teenaged patients, from athletic injuries to mental health concerns, would eventually lead him to become a central figure in the development of adolescent medicine.[8]

At the college level, Dr. Augustus Thorndike, Jr., who served as physician to Harvard University's athletic department beginning in 1926, became one of the most prominent doctors to write about his medical findings on the sidelines. In fact, he would eventually contribute to the development of sports medicine as a subspecialty. Beginning in the 1930s, Dr. Thorndike reported on the incidence of trauma in organized athletics at Harvard College in several articles and monographs. In a 1938 article for the *New England Journal of Medicine,* Dr. Thorndike wrote that he had observed the most serious injuries among college students in unorganized skiing, baseball and polo, rather than organized football. Even so, he wrote, more individuals were participating in sports, such that more injuries were to be expected, and doctors would need to be responsible for preventing recurrent minor injuries to protect athletes' health.[9]

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[8] J. Roswell Gallagher, "Athletic Injuries Among Adolescents: Their Incidence and Type in Various Sports," *Research Quarterly* 19;3 (1948): 198-214. For Dr. Gallagher's work in developing the field of adolescent medicine, see Heather Munro Prescott, *A Doctor of Their Own: The History of Adolescent Medicine* (Cambridge, Harvard University Press), 1998. See especially Chapter 2, "J. Roswell Gallagher and the Origins of Adolescent Medicine." For Dr. Gallagher's own perspective on the field, see J. Roswell Gallagher, "The Origins, Developments and Goals of Adolescent Medicine," *Journal of Adolescent Health Care* 3 (1982): 57-63.

[9] Augustus Thorndike, Jr., "Trauma Incident to Sports and Recreation," *New England Journal of Medicine* 219;13 (1938): 457-465 and Augustus Thorndike, Jr., *Athletic Injuries: Prevention, Diagnosis and Treatment* (Philadelphia: Lea & Febiger, 1938). For a brief review of Dr. Thorndike's career and his contribution to the development of sports medicine, see Bertram Zarins, "History of the Massachusetts General Hospital Sports Medicine Service," *The Orthopaedic Journal at Harvard Medical School* (no date): 108-110. Accessed August 4, 2015 at http://www.orthojournalhms.org/volume9/manuscripts/ms13.pdf, as well as his obituary, "Dr. Augustus Thorndike, 89, Sports Medicine Specialist," *New York Times*; February 1, 1986.

In 1940, one week after Dr. Thorndike published another review of some of the most common athletic-related injuries, *Time Magazine* published a profile of the doctor's work. While most athletic injuries were slight, Dr. Thorndike told *Time*, he acknowledged that "more accidents occur in football per playing hour than in any other game." Nonetheless, the *Time* profile stated that there was nobody more vehement than this eminent physician, himself a former Harvard football player, about the physical benefits of athletics.[10] Dr. Thorndike, then, along with many other doctors who treated athletic injuries, endorsed and promoted the overall benefits of sports. Rather than arguing for limitations on athletic participation, Dr. Thorndike supported medical supervision of popular contact sports to protect athletes.

Dr. Thorndike's perspective was hardly unique. Doctors overseeing youth athletics typically saw their supervisory role as ensuring that participants could continue to enjoy the health benefits of organized sports. Of course, the belief in the value of organized sports was widespread in American society and among medical professionals. Even those physicians without any athletic team affiliations, and those who were most concerned about the physical risks of football or boxing for young children, hastened to make clear that athletic competition could not and should be eliminated. "Competition is part of our American way of life," emphasized pediatrician George Maksim in a 1958 article in *JAMA.*[11]

Yet team physicians occupied a particularly ambivalent position, in some ways reminiscent of the dilemma that company doctors faced while studying occupational illnesses.

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[10] "Athletes' Injuries," *Time* 36;8; August 19, 1940, p. 48.

[11] George Maksim, "Desirable Athletics for Children," *Journal of the American Medical Association* 168; 11 (1958): 1431-1433. Similarly, in 1957 *Sports Illustrated* quoted Dr. Maksim as saying, "Competition is part of the growing child that should be recognized, accepted and directed." Kenneth Rudeen, "The Verdict," *Sports Illustrated*; August 26, 1957. Accessed December 14, 2015 at http://www.si.com/vault/1957/08/26/602895/the-verdict

Company doctors' duty to their employees was in tension with their duty to their patients.[12] But unlike company doctors, who were paid to be held accountable to corporate employers, most doctors and coaches serving youth football teams were volunteers. Their potential conflict of interest was not financial, but rather ideological, given that the team physician's very role compromised the equipoise that would be needed to assess the real risks of the sport. In other words, doctors serving school athletic teams may have consciously or unconsciously underestimated the risks of youth football because they believed a priori in the value of the sport.

In this sense, football coaches were in a somewhat similar position to medical doctors. Coaches expressed faith in the value of competitive athletics, of course, but amid public fears of the risks, they found it essential to demonstrate that they were addressing injuries. In fact, responding to injuries was a means of advocating that football could remain beneficial. At the 1931 annual meeting of the American Football Coaches Association, Coach John Heisman told the rules committee in an open discussion that a number of football-related deaths occurred every year, "and what are you going to do about it? You cannot just laugh it off and you cannot just argue it off. That is not the way the public and the press are built."[13]

In response to ongoing debates and concerns over athletes' deaths and the sport's overall safety, football coaches themselves sought to track deaths and severe injuries associated with the sport. In December 1921, college football coaches had formed the American Football Coaches Association (AFCA), in part due to their alarm over the professionalization of the sport. They

[12] Diana Chapman Walsh, "Divided Loyalties in Medicine: The Ambivalence of Occupational Medical Practice," *Social Science & Medicine* 23;8 (1986): 789-796.

[13] "Report of Rules Committee," *Athletic Journal* 12;7 (1932): 19-24. John Heisman was a renowned football player and coach, for whom the Heisman trophy for most outstanding college football player in the United States would later be named.

considered professional football to be "detrimental to the best interests of American football and American youth." At the AFCA's annual meeting in 1932, president Mal Stevens explained that in the past year the organization had deemed it wise to embark on a study of the sport's safety "so that we would be in a position to either answer the criticisms which have been directed at us, be able to refute them, or to acknowledge the criticisms as just and try to improve the game from a coaching standpoint." While in the ensuing years the AFCA would make changes to the particular format of the survey, the organization continued to collect information on football injuries and deaths every year. As a result, since 1931, the AFCA has tabulated the numbers of catastrophic injuries and fatalities in football occurring in children and young adults.[14]

A photograph of Mal Stevens signing a football for two girls at New York's 1939 World Fair indicates a particular public profile that many football coaches enjoyed, particularly at the college level (see Figure 3). Football coaches such as John Heisman, Vince Lombardi, and Pop Warner could be celebrities in their own right. They thus carried a somewhat ambivalent responsibility to be ambassadors for their own sport while also overseeing the physical regimens of their players and maintaining the health of their teams. This ambivalence was only further compounded when they also had other careers as athletes, physicians, or both. Mal Stevens, a former football player as well as a coach, would also go on to a career in orthopedic surgery treating sports-related injuries.

[14] American Football Coaches Association, *Proceedings of the Twelfth Annual Meeting of the American Football Coaches Association* (New York, New York: December 27-28, 1932): 5. The AFCA's annual survey included figures for football played at the sandlot, club, high school, and college levels. Two doctors compiled these statistics through 2008 and have summarized some of the rules and equipment changes that were instituted during this time period. Frederick O. Mueller and Robert C. Cantu, *Football Fatalities and Catastrophic Injuries, 1931-2008* (Durham, North Carolina: Carolina Academic Press, 2011). On the organization of the American Football Coaches Association and for a history of American college football, see John Sayle Watterson, *College Football: History, Spectacle, Controversy* (Baltimore: Johns Hopkins University Press, 2000).

Figure 3. Mal Stevens Signing a Football For Two Girls, 1939[15]

While the National Federation of High School Athletic Associations (NFHS) did not have its own separate survey of injuries and deaths comparable to the AFCA's, the organization did periodically share available statistics with its membership. For example, at its December 1948 annual meeting, the NFHS shared football injury counts from a study conducted by an insurance company, the Security Life and Accident Company of Denver, Colorado. The company reported these statistics according to several factors, such as age of player, player's position, date, and the nature of the competition (game versus practice). But these numbers were useful neither for

[15] Mal Stevens, former president of the AFCA, signs a football for two girls at New York's World Fair in 1939. Manuscripts and Archives Division, The New York Public Library. "Sports - Football - Mal Stevens signing football for two girls," New York Public Library Digital Collections. Accessed August 29, 2015 at http://digitalcollections.nypl.org/items/5e66b3e8-9ee8-d471-e040-e00a180654d7.

calculating rates, nor for evaluating whether any of these factors were meaningfully associated with injuries. For example, the percentages of total football injuries by age appeared to indicate that in general, the younger the player, the greater the risk of injury, with the highest percentage of injuries occurring among 17-year-olds (see Figure 4). However, as H. V. Porter of the NFHS pointed out in reporting this data, the high percentage was "due to the fact that a large majority of high school players are of that age." In fact, without relevant denominators indicating how many athletes of each age had played tackle football in total, and how many of the players out of this sample had been injured, such numbers were not useful in assessing a meaningful indication of risk.[16]

Figure 4. Football Injuries by Age, Security Life and Accident Company[17]

Age	Percent of Total Injuries
Under 16	25.5%
16 years	28.7%
17 years	38.5%
18 years	5.3%
19 years	1.5%
20 years	0.5%
Total	100%

Despite these various death and injury counts, then, systematic epidemiological analyses to identify risk factors associated with football injuries and deaths remained limited to

[16] H.V. Porter, "National Federation Annual Meeting," *Scholastic Coach* 18;6 (1949): 44-46; 60. See also chapter four for additional discussion of the relationship between insurance data and understandings of football safety.

[17] H.V. Porter, "National Federation Annual Meeting," *Scholastic Coach* 18;6 (1949): 44-46; 60.

nonexistent. In fact, the very notion of injury prevention as a field of public health inquiry was rather new. Injury researcher Dr. Jess Kraus, whose professional career in injury epidemiology began in the 1950s, recalled that "the literature on epidemiology and injuries before the 1960s was sparse." Studying injuries systematically would require a shift from a prevailing folkloric view of injuries as random or unpredictable "acts of God" to an understanding of injuries as predictable and preventable occurrences. The prevailing attitude that injuries were "natural" mishaps that could not be prevented was evident even in some of the language used by doctors in reviewing football injuries and deaths. For instance, in his 1935 review of football injuries, New Orleans surgeon Dr. Lucian Landry noted that "the natural hazards of the game still were the major cause of all accidents." Dr. Landry cited one analysis finding that over a quarter of the more serious football injuries might have been preventable with greater attention to coaching, the players' condition, and the quality of playing fields. Nonetheless, he contended that the remaining majority of football injuries were "natural hazards," and thus an inherent part of the game that one could not expect to prevent.[18]

Meanwhile, in the larger context of American public health, rather than blaming injuries on happenstance or on the carelessness of individuals, in the 1950s and 1960s researchers increasingly began to attribute injuries to dangerous environments or poorly designed systems. Some historians have analyzed changes in the English language, such as neologisms, to illustrate this shift. For instance, John C. Burnham has argued that the very term "childproofing," which emerged in the 1950s, illustrated this new understanding that engineering solutions could effectively protect the safety of children. Another particularly important development in injury

[18] Jess F. Kraus, "A Journey To and Through Injury Epidemiology," *Injury Epidemiology* 1;3 (2014): 1-3. Accessed July 21, 2015, doi:10.1186/2197-1714-1-3. Landry, "Injuries Peculiar to Modern Football," 601.

prevention during the period was increasing attention to preventing automobile-related injuries, highlighted by the publication in 1965 of Ralph Nader's *Unsafe at Any Speed.*[19]

Doctors pointed to such injury efforts in other fields in order to call for similar organized efforts to be paid to injuries among athletes. For example, Dr. Augustus Thorndike introduced a 1956 medical article on sports injuries by pointing to the work of James P. Mitchell, the U.S. Secretary of Labor. Mitchell had drawn public attention to the importance of preventing occupational injuries and deaths that affected nearly two million workers. Despite continuing "appalling numbers," the disability rate among American workers had declined from 1943 to 1954, a visible success for industry and insurance companies. Yet, Dr. Thorndike continued, in contrast with the organized efforts to prevent injuries and enhance worker safety, "one can observe little organized endeavor on the part of coaches, trainers, and others in the field of sport to institute training programs along the same lines."[20]

In conjunction with the growing prominence of injury prevention in workplaces and on the roads, sports medicine and related medical fields began to grow more organized and specialized. The National Athletic Trainers' Association (NATA) was founded in 1950, and the

[19] John C. Burnham, "Why Did the Infants and Toddlers Die? Shift in Americans' Ideas of Responsibility for Accidents—From Blaming Mom to Engineering," *Journal of Social History* 29 (1996): 817–838; Ralph Nader, *Unsafe at Any Speed* (New York, NY: Grossman Publishers, 1965). For a discussion of earlier conceptualizations of injuries as acts of God, see Hermann Loimer and Michael Guarnieri, "Accidents and Acts of God: A History of the Terms," *American Journal of Public Health* 86;1 (1996):101–107. The 1964 publication of *Accident Research: Methods and Approaches*, was an important landmark in the epidemiology of injuries. On this and other developments of injury prevention as a field of public health, see Julian A. Waller, "Reflections on a Half Century of Injury Control," *American Journal of Public Health* 84;4 (1994): 664–70.

[20] Augustus Thorndike, "Prevention of Injury in Athletics," *Journal of the American Medical Association* 162;12 (1956): 1126-1132.

American College of Sports Medicine was founded in 1954.[21] In 1960, the American Medical Association developed a Committee on the Medical Aspects of Sports.[22] As sports medicine developed as a subspecialty, its practitioners would often find themselves confronting the competing nature of their obligations. Akin to the ways that the role of team physicians influenced the way they perceived the risks of youth football, the field of sports medicine itself developed not only with a focus on preventing injuries, but also with the goal of improving sports performance. In 1975, for example, several sports medicine experts participated in a roundtable discussion of the legal, ethical, and moral questions involved in their field. As one panelist, Dr. Sekerak, a general surgeon and team physician for the Cleveland Cavaliers, observed, the team physician's first obligation was to the player. Even so, "the physician also has an obligation to the coaches, or in professional teams, the owners, because he must help obtain the maximum function of an athlete." Expressing this perception more colloquially, in 1974 one reporter described team physicians as "a combination of Dr. Spock and Dr. Feelgood."[23]

Sports medicine thus seemingly occupied a compromised position as a medical field. Nonetheless, the medicalization of sports-related injuries lent greater professional authority to

[21] Jack Berryman argues that the sub-specialty of sports medicine had its origins in physical education, physiology, and cardiology, and also describes the influence of military research and rehabilitation particularly during World War II. Jack W. Berryman, *Out of Many, One: A History of the American College of Sports Medicine,* (Champaign, Ill.: Human Kinetics, 1995). On the foundation of the National Athletic Trainers' Association and the development of athletic training education, see Gary D. Delforge and Robert S. Behnke, "The History and Evolution of Athletic Training Education in the United States," *Journal of Athletic Training* 34;1 (1999): 53-61.

[22] Douglas W. Jackson, "The History of Sports Medicine, Part 2," *American Journal of Sports Medicine* 12;4 (1984): 255-257.

[23] A professional athlete participant in this roundtable, Keith Erickson of the Phoenix Suns, challenged Dr. Sekerak's contention that physicians always put players first. He expressed the view that many athletes felt that team physicians were only interested in management's point of view. "If [a player] was hurt, he just had to get back and play as soon as possible." "Round Table: Legal, Moral, and Ethical Questions in Sports Medicine," *Physician and Sportsmedicine* 3 (March 1975): 71-84; Neil Amdur, "Once More, Doc, With Feeling," *New York Times*; August 22, 1974.

trainers and doctors. For example, a 1965 news story would highlight the increasingly "scientific" nature of athletic training. Whereas athletic trainers had once primarily dispensed aspirin and rubdowns, marveled a *Chicago Tribune* sports reporter, they now "bandied about and absorbed technical terms that would send Dr. Ben Casey scurrying for his medical dictionary."[24]

Despite this new scientific appearance, however, large-scale systematic studies of football injuries and injury prevention techniques remained rare through the mid-1960s. Doctors and coaches had repeatedly called for better data, but medical societies, funding agencies and public health organizations had not developed formal centers or programs that would support systematic research on youth sports injuries. In 1959, Dr. George B. Logan, who would later serve as the president of the American Academy of Pediatrics, remarked that "there is remarkably little factual material published on the injury rate among children engaged in various sports."[25] As late as 1964, the author of an article in *JAMA* on high school football injuries observed that "no data have been gathered which demonstrate which parts of the game or equipment are responsible for the injuries."[26] As one 1966 report from the American Academy of Pediatrics stated,

> The fact that 65 deaths in high school age boys from 1960 through 1964 resulted directly from participation in high school football suggests the need for preventive measures and adequate medical supervision. The actual amount of morbidity and mortality is unknown

[24] Robert Markus, "Trainer Now Man of Science; Era of Aspirin Bluff Gone," *Chicago Tribune*; June 15, 1965. Dr. Ben Casey was the title character of an American TV medical drama which ran from 1961 to 1966. For a history of early athletic training written by an athletic trainer, see Matt J. Webber, *Dropping the Bucket and Sponge: A History of Early Athletic Training, 1881-1947* (Prescott, AZ: Athletic Training History Publishing, 2013).

[25] George B. Logan, "Essential Medical Supervision in Athletics for Children," *Journal of the American Medical Association* (1959) 169;8: 786-787. Logan accepted the presidency of the American Academy of Pediatrics in 1967. George B. Logan, "Acceptance of the Presidency of the American Academy of Pediatrics," *Pediatrics* 40;6 (1967): 1049.

[26] Richard H. Alley, Jr., "Head and Neck Injuries in High School Football," *JAMA* 188;5 (1964): 118-122.

but is significant enough to raise serious questions about contact sports for youth who are too young, physically inadequate, or improperly protected by inadequate gear.[27]

Even without clear data, several leading medical and educational organizations felt compelled to take a stand against football for prepubescent children. In 1953, the National Education Association (NEA) hosted a two day conference in Washington, DC on program planning in games and sports for young children. The 44 delegates in attendance ultimately recommended banning football and other contact sports for children aged twelve and younger. Dr. George Maksim, representing the American Academy of Pediatrics, argued that "the risk of permanent bone and joint injuries is just too great." Joe Tomlin, who represented Pop Warner football at the conference, was the lone representative to vote against recommending a ban on football and other body contact sports. As reported by J. Bertram Kessel, coordinator of the conference, Tomlin stated that he had founded Pop Warner "to get the children off sandlots and into a supervised program that stressed proper equipment and coaching."[28]

Leaders of youth football leagues naturally dissented from banning football, but leading medical organizations did not share their endorsement of the overall benefits of organized football for youngsters. In 1957, the American Academy of Pediatrics' Committee on School Health, which had been founded in 1931, published a policy statement on competitive athletics

[27] American Academy of Pediatrics, *Report of the Committee on School Health of the American Academy of Pediatrics* (Evanston, IL: American Academy of Pediatrics, 1966): 72.

[28] Jack Walsh, "Football Ban Urged For Youngsters," *The Washington Post*; May 27, 1953. The 44 delegates who made the recommendations included representatives from 29 different interested groups, including the American Academy of Pediatrics, the National Education Association, National Recreation Association, American Medical Association, American School Health Association, the Pop Warner Foundation (football), Little League Baseball, and other similar medical, educational and recreational groups. For a summary of the conference, see J. Bertram Kessel, "Planning Games and Sports for Youngsters: Highlights of the National Conference on Program Planning in Games and Sports for Boys and Girls of Elementary School Age," *Journal of the American Association for Health, Physical Education and Recreation* 24 (1953): 8-9.

for children twelve years or younger.[29] According to the statement, due to children's susceptibility to bone and joint injuries, "body-contact sports, particularly tackle football and boxing, are considered to have no place in programs for children of this age."[30]

Doctors and educators who believed that any permanent deformity resulting from youth football was an unjustified risk had little data to indicate just how severe or minimal this risk might be. Nonetheless, during this period the medical concerns about football for growing children focused a great deal of attention on bone and joint injuries. Consequently, in addition to pediatricians, orthopedists were particularly vocal in their opposition to tackle football. Of 403 orthopedists who responded to a 1947 questionnaire on the safety of competitive sports, only 19 indicated that they considered football safe for participation for the junior high school age group. Yet 153 respondents considered boxing safe, and 235 approved of touch football.[31] The author of this questionnaire included a space for comments, and quoted one survey respondent as saying, "I believe it is a tragic situation when any school permits the students to participate in football in the 10th grade or below."[32]

In 1960, *Time Magazine* ran an article examining doctors' perspectives on organized sports, and quoted several physicians emphasizing that collision sports such as football could not be made appropriate for children. "Cutting down the field and changing the rules doesn't make

[29] Marshall Pease, *American Academy of Pediatrics: June 1930 to June 1951* (Evanston, IL: American Academy of Pediatrics, 1952.)

[30] American Academy of Pediatrics Committee on School Health, "Competitive Athletics: A Statement of Policy: Report of the Committee on School Health, American Academy of Pediatrics," *Pennsylvania Medical Journal* 60 (5) (1957): 627-9.

[31] CL Lowman, "The Vulnerable Age," *The Journal of Health and Physical Education* (1947) 18;9: 635-636.

[32] *Ibid* pg. 636.

football a kid's sport."[33] The November 1960 Bulletin of Westchester County's Medical Society published an editorial calling for limiting football among pre-adolescent children, stating that "one permanent deformity as a result of such activity is an unwarranted risk."[34] According to Hollis Fait, an instructor in physical education at East Oregon College of Education, "almost without exception the literature which has appeared has been in opposition. Many physical educators and professional groups have gone on record opposing interscholastic competition for pupils below the tenth grade. Yet the practice continues."[35]

The Burden of Proof

Who had the authority to interpret the available evidence and evaluate the risks and benefits of youth football? A comparison between the perspectives of Dr. John Reichert, an assistant professor of pediatrics at Northwestern University Medical School, and Creighton Hale, the director of research and vice president of Little League Baseball, Inc., illustrates this fiercely contentious issue. In 1958 and 1959, Dr. Reichert and Hale each authored lengthy examinations of existing research on competitive athletics for young children. The contrast between their interpretations of the limited available evidence reveals a contest over which evidence was considered reliable, who had the authority to best interpret the evidence, and also where the burden of proof ought to lie in evaluating the benefits and risks of competitive sports.

As an assistant professor of pediatrics, previous chair of the American Academy of Pediatrics' Committee on School Health, and member of the city of Chicago's Board of

[33] "Doctors on Sport," *Time Magazine*; December 12, 1960, 74-75.

[34] "Curbs on Football for Smaller Boys Asked by Doctors," *New York Times*; November 18, 1960.

[35] Hollis Fait, "Needed: A Policy on Junior-High Interschool Athletics," *The Journal of the American Association for Health, Physical Education, and Recreation* 21;8 (October 1950): 20-21.

Education, Dr. Reichert had exhibited an extensive interest in school health. In 1958, the prestigious *Journal of the American Medical Association* published an article by Dr. Reichert in which he characterized his perspective on the debate over competitive athletics for children younger than thirteen. While acknowledging that the lines were not too clearly drawn, he nonetheless described two rather distinct groups as standing on each side of the issue. On one side, Dr. Reichert wrote, were people who believed that some limitations should be placed on competitive athletics for young children: "In this group are the majority of educators and physicians who have studied the issue." On the other side stood a group largely composed of "sports promoters, professional athletes, sports fans, and some coaches," who considered highly organized and competitive sports desirable for young children. Dr. Reichert observed that more research would be needed to clarify the long term impact of athletic competition, but in the meantime, "one must doubt the claim that the stress of competition promotes optimum growth and development."[36]

In the face of scientific uncertainty, then, Dr. Reichert counseled that the preponderance of medical opinion favored a precautious approach. Much of this uncertainty specifically centered on the health benefits and safety of tackle football. As safer alternatives to the tackle sport, Dr. Reichert recommended touch or flag football for children. To support this opinion, he cited a personal communication from Dr. Eddie Anderson to Dr. Fred Hein, both physicians with interest and experience in youth health and fitness. Dr. Anderson had observed that touch football would be a better training program for pre-teenagers than tackle football. In fact, Dr.

[36] John L. Reichert, "Competitive Athletics for Pre-Teen-Age Children," *Journal of the American Medical Association* 166;14 (1958): 1701-1707. Prior to its 1958 publication in JAMA, Dr. Reichert had read this article before the Section on Pediatrics at the American Medical Association's annual meeting in 1957. In 1957, he had also published a similar article to the 1958 *JAMA* piece. See John L. Reichert, "A Pediatrician's View of Competitive Sports Before The Teens," *Today's Health* 35 (1957): 28-31.

Anderson was a successful college football coach at the College of the Holy Cross who had also earned a medical degree, and who would later be inducted into the College Football Hall of Fame. These experiences lent him credibility as an authority on both football and health. Further citing a handbook of the National Federation of High School Athletic Associations, Reichert wrote that "about 60% of all injuries occurring in tackle football occur while tackling or being tackled," and that a switch to supervised touch or flag football would eliminate these injuries. He concluded that his recommendations were based on "the considered judgment of the majority of capable professional educators and physicians who have studied the problem."[37]

Not surprisingly, sports organizers disputed such assessments. Creighton Hale, vice president of Little League Baseball, Inc., characterized efforts to discourage competitive athletics for pre-high school age children as a "crusade." Hale, a prominent youth sports administrator, was also a physiologist with interests in sports safety research. Hale was a former athlete himself, having attended the University of Nebraska on a track scholarship. Before joining the Little League organization as its director of research in 1955, Hale had earned a doctorate in physiology and conducted research at Springfield College. He would design a batting helmet to cover the full head and ears, and would later serve as the president of Little League.[38]

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[37] John L. Reichert, "Competitive Athletics for Pre-Teen-Age Children," *Journal of the American Medical Association* 166;14 (1958): 1701-1707. For a biography of football coach Eddie Anderson, see Kevin Carroll, *Dr. Eddie Anderson, Hall of Fame Football Coach: A Biography* (Jefferson, NC: McFarland & Company, 2007). Dr. Anderson also spent several years coaching at the University of Iowa. Dr. Fred Hein had served as secretary of the Joint Committee on Health Problems in Education for the National Education Association and the American Medical Association from 1949 to 1957. "Fred V. Hein Receives R. Tait McKenzie Award 1973," *School Health Review* 4;4 (1973): 22. The origin of the statistic that 60% of all injuries occurring in tackle football were associated with tackling is unclear.

[38] Lance Van Auken and Robin Van Auken, *Play Ball! The Story of Little League Baseball* (University Park: Pennsylvania University Press, 2000), 110-111. See also Charles Euchner, *Little League, Big Dreams: The Hope, the Hype and the Glory of the Greatest World Series Ever Played* (Naperville, IL: Sourcebooks, Inc.: 2006).

Hale's 1959 article for the *Journal of Health, Physical Education, and Recreation* observed that medical professionals' studies had thus far been largely limited to opinion pieces and review articles. Hale criticized how "the armchair philosophers and the encyclopedic researchers, utilizing their intuitive knowledge and the crystal ball," had transformed competitive athletics for young children into the most controversial topic of the 1950s for the American Association of Health, Physical Education, and Recreation. Though he argued that more studies were needed to determine the educational value of competitive athletics, Hale nonetheless contended that the available research was favorable toward athletic competition. He wrote that children who participated in competitive sports attained higher social status and prestige, and that they were more likely to exhibit many "desirable personality traits," such as cooperation, confidence, leadership, sportsmanship, and sociability. While the children who participated in sports such as football and baseball were primarily boys, Hale also cited research indicating that girls with experience in athletics experienced similar social benefits, such as showing improved leadership qualities, greater activity in clubs, and improved emotional stability.[39]

Concluding that children benefited considerably from competitive athletics, Hale asserted that "normal" children would not be harmed by strenuous physical activity. To support this claim, Hale did not primarily address concerns about injuries, but rather sought to refute beliefs that strenuous activity might damage children's hearts or hinder their growth. He cited several physiological studies on the development of the heart and arteries in children, and concluded that human hearts were protected by "certain safety valves which prevent physiological trauma during and following strenuous activity." To defend against claims that interscholastic sports might harm children's growth, he cited several studies of the rate of physical growth in youth

[39] Creighton Hale, "What Research Says About Athletics for Pre-High School Age Children," *Journal of Health, Physical Education, and Recreation* 30;9 (1959): 19-21, 43.

who participated in athletics compared to those who did not. The findings of these studies were mixed, and Hale further acknowledged that differential rates of maturation in children of the same age meant that child athletes needed to be carefully matched against competitors of a similar developmental stage to prevent injury. Nonetheless, for Hale, the existence of studies finding that youth athletes were taller and heavier than their non-athlete counterparts was sufficient to discount concerns about the impact of athletics on growth. "What is impossible to explain, if competitive athletics do retard growth, is why athletes are larger than nonathletes."[40]

Both Dr. Reichert and Hale, then, acknowledged a lack of research evidence and critiqued the debate over competitive sports for youth as being based in emotion rather than fact. Yet they reached very different interpretations of the available research. At the outset of his article, Hale suggested that personal experience playing sports and male gender—two factors which were certainly not independent of one another in the 1950s—lent those making claims about sports safety greater authority and credibility. He implied that those seeking to place limits upon competitive sports for children were biased against athletics, casting suspicion on the basis for their concerns: "It has been established that women are less favorable toward athletic competition than men and that people who have not had athletic experience are less favorable toward competition than those having this experience." Hale's arguments were further based on the view that the burden of proof lay with doctors and educators to clearly demonstrate detrimental effects of competitive sports on children. He considered that the limited and inconsistent medical evidence on the harmful health effects of youth sports, even sports as seemingly dangerous as boxing, failed to meet this standard.[41]

[40] *Ibid.*

[41] *Ibid.*

Dr. Reichert, on the other hand, elevated the authority of medical and educational professionals to assess the health effects of sports over the views of athletes, sports coaches or sports administrators. He recommended that children should participate in safer, alternative sports in the absence of evidence demonstrating that full body contact sports were not harmful. Perhaps most strikingly, Dr. Reichert challenged not only evidence and claims in favor of the benefits of competitive athletics, but also beliefs that adults could effectively mitigate the risks of injuries. Arguing that the notion that "injuries can be insignificant with adequate and intelligent adult supervision" contained numerous fallacies, Dr. Reichert asserted that children were susceptible to bone and joint injuries, as well as organ damage that might not be evident at the time of injury, but could manifest itself weeks or even years later. Even the most careful adult supervision could not control such risks. Dr. Reichert concluded that immature children's bodies were too vulnerable to safely engage in body contact sports such as football or boxing, and that "the burden of proof rests with those who disagree."[42]

Team Physicians, Medical Supervision, and Promoting a "Wholesome" Sport

Among his numerous arguments, Dr. Reichert had highlighted and disagreed with a prevailing assumption that adequate adult supervision of sports would reduce player injuries. He likely emphasized this point in response to the prevailing belief that organized sports were safer. The notion that adult-organized athletics were safer for children than playing in unsupervised sandlot games underlay much medical and coaching advice about how to effectively prevent injuries. Indeed, many doctors had asserted this belief as fact in the medical and education literature without supporting data. For instance, in 1947 an orthopedic surgeon wrote that "sand

[42] John L. Reichert, "Competitive Athletics for Pre-Teen-Age Children," *Journal of the American Medical Association* 166;14 (1958): 1701-1707.

lot" games were "far more dangerous than supervised school competition where children should be well matched and taught how to defend and protect themselves."[43] On this view, adults protected children by ensuring that only players of a similar age and size competed against each other, and by instructing young athletes in football techniques. Such techniques included, for instance, coaching children in how to fall so that they would not land on their heads or necks, hitting other players with their shoulders instead of their heads, and always keeping their necks straight (never bent up or down) as they hit.[44]

Personal involvement in football as a parent, coach, team physician, or trainer often motivated physicians to examine the sport's medical aspects. Perhaps not surprisingly, physicians commenting from this perspective typically endorsed the importance of supervision. This emphasis also shaped the interpretation of the data that were available. A pre-existing involvement with the sport helped inspire physicians to consider the medical aspects of football as an important and worthwhile subject of study. On the other hand, these physicians would be unlikely to consider banning or limiting football. They instead generally regarded the sport as beneficial overall, with careful medical management sufficient to mitigate the risk of injuries.

For instance, Dr. Joseph H. Burnett worked as a physician at Boston City Hospital and served as the attending physician for schoolboy games at Dorchester, Massachusetts, for many years. Players gave him the nickname "Hot Towels Burnett" for his standard treatment for bumps and bruises.[45] His research on football safety focused on high school and college players.

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[43] C.L. Lowman, "The Vulnerable Age," *The Journal of Health and Physical Education* (1947) 18;9:635-636.

[44] Lou Little, "Teach Your Boy to Play it Safe," *Baltimore Sun*; September 26, 1954.

[45] Paul Costello, Massachusetts High School Football Association, email to author, June 13, 2015. See also The Gridiron Club of Greater Boston, "Dr. Joseph H. Burnett Award," Accessed April 26, 2014 at http://gridclubofgreaterboston.com/awards/dr-joseph-h-burnett-award.html

In a 1940 article published in the *New England Journal of Medicine*, Dr. Burnett compared rates of injuries among Harvard College players versus Boston high school teams. He attributed differences in the percentages of injuries to the former setting having far more supervision than the latter setting. Dr. Burnett asserted that the worst injuries evidently occurred during unorganized games. "This type of play is unsafe, produces serious injuries and gives football an unjustified reputation as a dangerous game."[46]

Burnett therefore advocated for "a campaign of education and helpful advice" to respond to the risks of unregulated play, writing that adult supervision, adequate playing equipment, and removing injured or tired players from the game would help eliminate serious injuries. He extrapolated both his findings and advice based on older players to younger ones. He therefore praised fathers in Belmont, Massachusetts for organizing their 8- to 14-year old sons into teams and supervising their matches as an ideal strategy for preventing injuries in this age group. Burnett concluded that with such supervision, football was "certainly worth while," adding that "young America will play football, with or without helpful supervision, so that it is the duty of their elders to help regulate the playing of juveniles."[47]

Among the elders regulating the youth game—coaches, parents, trainers, and doctors—doctors unsurprisingly argued that team physicians should be the primary medical supervisors of the sport. Team physicians' duties included conducting physical exams of players before the season began, as well as observing and treating players as necessary throughout the course of the season. Dr. James Daly argued that physical examinations were especially important in football,

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[46] Joseph H. Burnett, "A Review of Injuries in Boston Secondary Schools," *New England Journal of Medicine* (1940) 223;13: 486-489.

[47] Joseph H. Burnett, "A Review of Injuries in Boston Secondary Schools," *New England Journal of Medicine* 223;13 (1940): 486-489.

because while all boys ought to have the opportunity to participate in athletics, tackle football was especially rough and dangerous. As a result, "it would be a serious mistake to include football for boys without real aptitude."[48] Physicians, then, would need to determine which boys possessed sufficient "real aptitude" to be able to safely participate.

Physicians also argued that they ought to be granted the final authority in diagnosing and treating any injuries that might arise during play, whether minor or severe. "The team physician's prerogatives of early diagnosis and treatment must not be usurped by coach or trainer, lest a minor injury become aggravated by continued play, causing a long period of disability," explained Dr. Thorndike. He argued that doctors were essential to early detection of injury, because coaches were understandably and necessarily primarily interested "in the technical perfection of team and position play," and thus could not be expected "to spot a limping or arm-weary player." Adult supervision of youth football therefore required a clear division of labor, and medical oversight separated from coaching responsibilities was crucial.[49]

In a 1957 article, orthopedist Rodney Atsatt described his 25 years of experience serving as football team physician at Santa Barbara High School in California. In addition to reviewing several kinds of specialized first aid involved in addressing football injuries, from treating a charley horse to taping ankles, Dr. Atsatt offered broader thoughts on the role a physician should play. In particular, he described how a team physician should ideally collaborate with a coach in serving a football team. He wrote that a football coach ought to have "complete confidence in the doctor's judgment," not only in deciding whether it was safe for a boy to continue playing, but also in "matters of psychology." To address the latter issue, he described how he would observe

[48] James Daly, "Treatment of Athletes," *California Medicine* 88;6 (1958): 441-442.

[49] Augustus Thorndike, "Prevention of Injury in Athletics," *Journal of the American Medical Association* 162;12 (1956): 1126-1132.

the boys' attitude while taping their knees and ankles prior to games and relay his impressions to the coach. Dr. Atsatt proudly noted that his resulting observations would influence the coach's pep talk to the players. He provided an example of how, after he advised the coach to appeal to his players' pride after one game's disheartening first half, the team came back from a 20-0 deficit to win.[50]

While clearly advocating for the authority and independence of a team physician, then, Dr. Atsatt also implied that the team physician might assist with the team's success on the field by advising the coach. In his discussion of his approach to managing concussions during games, he also acknowledged the presence and perception of spectators. He advised that after a hard blow where a player emerged with "wooziness" but did not lose consciousness, the doctor ought to carefully observe the athlete but need not remove him from play. But if a player were "really out cold" on the field, he ought to always be brought off on a stretcher, Dr. Atsatt explained, in case the athlete had sustained a possible neck injury. Moreover, "it is very bad from the standpoint of the spectators to see a semiconscious boy walked off the field with his head bobbing from side to side, to say nothing of the possibility of further serious damage to the patient." In this way, a team physician not only worked to protect the health of football players, but also to prevent the unfolding of an unpleasant and disturbing scene following a serious injury, and to reassure the spectators on the sideline that the situation was under control.[51]

In addition to the assumption that adult supervision was a key factor in youth football safety, related beliefs about the social value of the sport shaped medical advice. In a 1956 guest editorial published in *JAMA*, Dr. Allan Ryan characterized the American Medical Association as

[50] Rodney Atsatt, "The High School Football Team Physician," *California Medicine* 87;4 (1957): 263-265.

[51] *Ibid.*

working with educators and coaches to highlight "the character-building advantages of football" while minimizing "the danger of young boys playing too many games in one season." Ryan portrayed football as a healthy sport for building boys' bodies and promoting teamwork, but one that could be dangerous, even "a killer and a maimer," without medical supervision. He advocated for regular physical examinations of players conducted by physicians, properly fitting uniforms, and pre-play warm-ups as effective means to preserve the benefits of the "wholesome and valuable" sport.[52] In other words, adult supervision not only prevented physical injuries, but also helped shape moral, emotionally healthy, "wholesome" boys.

Coaches and league administrators defended and promoted the sport in very similar terms. For example, Don C. Osgood, president of the East Fullerton Midget Football League, told a *Los Angeles Times* reporter that youth football was "becoming a safe, wholesome sport for the grade school youngster" because games were "under the strict supervision and the safeguards imposed by the mothers and fathers themselves and by the Pop Warner Midget Football Association of America."[53] Indeed, promoters of Pop Warner and other youth football leagues made remarkable claims for the safety of the sport. As Osgood continued in his remarks, "Unlike sand-lot football in which injuries sometimes mar contests, Pop Warner League is amazingly free of mishaps. . . . When healthy boys meet in a body-contact sport such as football, there's not much chance of a serious injury."[54]

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[52] Allan J. Ryan, "The A.M.A. and Sports Injuries," *Journal of the American Medical Association* 162;12 (1956): 1160-1161.

[53] Clyde Snyder, "Hard but Safe-Hitting Midget Grid Lines Bring Cheers From Parents," *Los Angeles Times*; November 17, 1957.

[54] Clyde Snyder, "Hard but Safe-Hitting Midget Grid Lines Bring Cheers From Parents," *Los Angeles Times*; November 17, 1957.

Yet not all doctors were entirely convinced by claims that "the sport is as safe for youngsters as for their older brethren." Citing a study of high school football injuries, Dr. Fred Hein wrote that "the younger and greener a youth," the more likely he was to sustain an injury.[55] Yet other doctors contended that football experience and skills did not appear to confer any particular protection. A 1962 examination of high school football injuries in California found that "head injuries occurred, for the most part, in players whose ability was considered excellent or good."[56] Further, some doctors questioned the adequacy of physical examinations as a means to identify children who should not play the sport and thereby prevent injuries. An attendee at a 1962 conference on head injuries reported seeing 120 boys processed in the space of three hours, and observed that this time was inadequate to thoroughly examine so many participants. It was unclear whether physicians had effective methods to identify which children were at greatest risk.[57]

Nonetheless, with many doctors, coaches, and league administrators publicly highlighting adult supervision as the key to ensuring that tackle football remained safe and wholesome, many parents also increasingly insisted on adult supervision in order to protect their children athletes. Indeed, to some parents, only the presence of adults could make football suitable for prepubescent children. As one father told the *Chicago Daily Tribune,* "You hear a lot about these kids being too young for this game, but with the supervision and rules in Pop Warner football

[55] Fred V. Hein, "Educational Aspects of Athletics for Children," *Journal of the American Medical Association* 168;11 (1958): 1434-1438.

[56] Richard H. Alley, Jr, "Analysis of Injuries to Southern California High School Football Players," in American Medical Association Committee on the Medical Aspects of Sports, *Proceedings of the National Conference on Head Protection for Athletes* (Chicago, IL: American Medical Association, 1962), 20-24.

[57] "Third General Session: Reports from Workshop Sessions." Francis Murphy, MD, presiding, pgs. 59-62. American Medical Association Committee on the Medical Aspects of Sports. Proceedings of the National Conference on Head Protection for Athletes. Chicago, IL: American Medical Association, 1962.

this isn't true."[58] This desire for supervision to promote safety was not limited to the smallest players, however, but extended through the high school level. For instance, in 1956, three hundred parents signed a petition presented to the Board of Education in Los Angeles, California, requesting increased coaching staffs for the "safety and welfare" of high school football players.[59]

The collection and reporting of sports safety data was not, in itself, a neutral activity; injury counts could be used to serve specific purposes. The Long Island Midget Football League kept its own statistics to reassure worried parents that the game was not dangerous. In 1956, they reported that in the previous year, among 288 players who had participated in a total of 9,706 boy-practice hours and 418 game hours, only eight injuries were reported. Neither the nature of these injuries nor the methods for reporting them are described. Yet these figures were shared not only to provide evidence of the sport's safety, but also to suggest the importance of supervision. Indeed, the *New York Times* journalist who reported these figures concluded his article by asserting, "It is reasonable to assume that many more injuries would have resulted if the same number of boys had played sandlot football on vacant lots, without proper supervision or equipment."[60]

Several historians and philosophers of medicine have discussed the notion of a "technological imperative" prevailing in medicine, particularly in the United States. This concept includes among its several definitions the notion of a strong faith in, focus on, and proliferation

[58] Robert Dickerman, "Colts and Devils Practice Hard and Play Harder," *Chicago Daily Tribune*; October 15, 1961.

[59] "Parents Ask for More School Football Coaches," *Los Angeles Times*; October 9, 1956.

[60] Howard M. Tuckner, "Small Fry Football League on Long Island Still Growing; Supervised Program Much Safer Than Sandlot Games," *New York Times*; November 18, 1956.

of technological approaches to address medical problems.[61] In youth football during this period, there might be said to exist a "supervisory imperative": a prevailing belief that adult supervision was necessary and sufficient to provide for youth football safety. Ensuring such supervision was promoted as a primary approach to address youth football injuries. The investment of coaches and team physicians in the sport of football influenced not only their understanding of risks but also the solutions they promoted to address safety concerns. Coaches and doctors recommended the involvement of more coaches and doctors, and the supposed need for supervision in turn justified the existence and expansion of organized youth leagues run by adults.

Putting the Risks in Context

What did it mean for youth football to be considered safe? What exactly were the risks for children playing tackle football on fields across the United States in the 1960s? Debates and discussions over the safety of football commonly featured efforts to place the risks of football in the context of other ubiquitous activities in American life. Despite having little epidemiological data available to substantiate these comparisons, these analogies frequently featured in both defenses and denouncements of the sport. In fact, the lack of data may have facilitated the use of such comparisons, and it often made them more difficult to refute. These analogies functioned as a strategy to understand and frame the risks in ways that people could more easily comprehend.

Drawing on their experiences and anecdotal observations, doctors and football coaches portrayed football as a "reasonably safe" sport in the context of other American activities, from horse racing to water sports. Boxing served as a particularly common foil to football, often

[61] See, for example, Bjørn Hoffmann, "Is There a Technological Imperative in Health Care," *International Journal of Technology Assessment in Health Care* 18:3 (2002); 675-689; David J. Rothman, *Beginnings Count: The Technological Imperative in American Health Care* (New York: Oxford University Press, 1997).

serving to make the risks of football seem relatively tame by comparison, though sometimes serving to highlight football's dangers. Given the discrepancies in the quality of available data on the sports' risks, the resulting claims could prove highly contradictory. The author of one 1951 article decrying the dangers of boxing asserted without a citation that "professional boxing is 83 times more deadly than high school football and 50 times more deadly than college football."[62] A 1951 analysis published in *JAMA,* however, found that boxing competitions "produced far fewer deaths, in proportion to the number of participants, than occur in baseball or football."[63]

Boxing was also held up as a cautionary tale of what might befall youth football if the risks of injury could not be controlled. While the waning of professional boxing has been attributed by historians to economic factors rather than moral disapprobation, concerns over boys' physical and moral well-being undoubtedly surrounded the sport at the youth level.[64] As the author of one analysis of high school football safety equipment warned: "The sport of boxing is on the verge of being outlawed because of injury to the human body. . . . The sport of football could find itself in the same precarious situation in which boxing exists today if the coaching

[62] A. H. Steinhaus, "Boxer's Brains Swapped for Medals," *Journal of the American Association for Health, Physical Education and Recreation* 8 (1951): 12-14.

[63] Thomas A Gonzales, "Fatal Injuries in Competitive Sports," *Journal of the American Medical Association* 146;16 (1951): 1506-1511.

[64] Jeffrey Sammons argues that the enormous growth of the television industry rendered boxing a less attractive and necessary form of programming, with major networks cutting back on telecasts and NBC becoming the first to drop the sport in September 1960. Sammons notes that "In 1952, 31 percent of the available audience watched boxing telecasts; by 1959 only 10.6 percent watched televised fights. Boxing's failure to keep pace with the expanding television audience made sponsorship of a prizefight a poor proposition for return on investment." Jeffrey T. Sammons, *Beyond the Ring: The Role of Boxing in American Society* (Urbana: University of Illinois Press, 1988), 174. Conversely, references to the ubiquity of football would later be employed in efforts to promote boxing. "Boxing is no more dangerous or cruel than football," one boxing trainer asserted in 1972. "Sissies Don't Make Very Good Boxers," *Sarasota Herald-Tribune*; July 16, 1972.

profession does not establish a philosophy of giving the player the greatest protection possible."[65]

Orthopedic surgeon Mal Stevens compared football to boxing and a wide range of other popular activities to assert that football was not a dangerous sport. Stevens, who had served as president of the American Football Coaches Association for a one-year term in 1931, had helped initiate the AFCA's collection of data on football-related fatalities and catastrophic injuries under his presidency. In 1962, he told readers of the *Boston Globe* that football was "safer than most water sports, less of a physical strain than basketball or tennis, less punishing than boxing. Football demands less stamina than soccer. There is more danger in being hit by a baseball, or being knocked from a racing horse, than being hit with a football or being tackled while running with one." Stevens further argued that while bruises and minor cuts were an inherent part of football, serious injuries and deaths were not, and they could be prevented.[66]

One of the most common comparisons employed in both academic literature and newspapers involved driving. Comparisons of the hazards of the road to those of the football field were almost always employed to portray football in a positive light, and this argument had a long history. As early as 1933, two doctors, including college football coach Mal Stevens, claimed that "the inherent dangers of football have been greatly exaggerated" and reassured concerned readers that "the majority of coaches have never seen a football fatality. . . . In our

[65] Herbert Davis Horton, *A Survey of the Safety Features of Expensive Items of Football Equipment as Used in Texas High Schools* (M.A. Thesis, Southwest Texas State University, 1955), 8.

[66] Mal Stevens, "It's Basically a Safe Game: Mal Stevens Sees Night Football Boosting Injuries," *Boston Globe*; September 9, 1962.

experience it is definitely more dangerous to drive to the Yale Bowl as a spectator than it is to play football the entire season."[67]

In the 1950s, the risks of driving were often highlighted as particularly hazardous for teenage boys. In a column for the Baltimore Sun, Lou Little, a former president of the AFCA and a Columbia University football coach, asserted that "the injury rate for the millions of boys who play football is very low, and the fatality rate is 15 times smaller than that from walking around outdoors and driving in the family car."[68] While the original source for this figure remains unclear, the "15 times safer than driving" claim circulated among football coaches. In an article arguing that the advantages of football heavily outweighed the dangers, football coach Charles Mather asserted that for teenagers it was "approximately 15 times safer to play football than to be a pedestrian or driver of an automobile!"[69] This figure bolstered the argument that if parents allowed their boys to drive a car, or even to ride in one, they could not reasonably oppose their son's desire to participate in football.

A more precise comparison of the risks of driving and football, focused on fatalities rather than injuries, was later published in the medical literature. In 1964, Floyd Eastwood, who chaired the AFCA's survey committee on football fatalities from 1942 to 1964, reported the results of the annual survey in the *New England Journal of Medicine*. In addition to comparing the number of football fatalities with deaths from firearms and drowning, he specifically noted the number of motor vehicle deaths among teenagers and young adults. "It has been estimated

[67] Marvin Allen Stevens and Winthrop Morgan Phelps, *The Control of Football Injuries* (New York: A.S. Barnes and Company, Inc.: 1933), ix.

[68] Lou Little, "Teach Your Boy to Play it Safe," *Baltimore Sun*; September 26, 1954.

[69] Charles Mather, "A Brief for High School Football," *Scholastic Coach* 21;2 (April 1952): 32-36.

that for the group fifteen to twenty-five years of age there is approximately 1 football fatality for 265.5 deaths associated with motor vehicles (August to January) . . . . This relative comparison indicates that other activities are more hazardous (fatal) than football."[70]

These figures did not, of course, capture the potentially catastrophic non-fatal hazards of football, such as spinal cord injuries or even paralysis. Furthermore, without a denominator, the raw numbers did not represent the level of risk relative to the number of participants or time spent engaged in the activities being compared. Other researchers, however, did seek to calculate fatality rates using the number of high school students participating in football and driving. Using data from the 1963 football season, orthopedic surgeon A. Ross Davis estimated 1.5 deaths per 100,000 high school students playing football, compared to approximately 21 deaths per 100,000 high school students from automobile accidents. Davis interpreted these rates as meaning that the numbers of deaths in football were "less alarming" than they might otherwise appear.[71]

As did Lou Little and other football coaches, medical doctors communicated these comparisons to major American newspapers. With similar figures for football but a higher rate of deaths among teenaged drivers than Dr. Ross had reported, Dr. Stephen Reid told the *New York Times* that the fatality rate in high school football "was only 1.62 per 100,000 players compared with 57 per 100,000 for male automobile drivers between 15 and 19 years of age."[72] These various claims made by medical professionals, football coaches, and sports administrators circulated in the media and influenced public perceptions of the risks of football. Parents who

[70] Floyd R. Eastwood, "Athletic Injuries," *New England Journal of Medicine* 217 (1964): 411-413.

[71] A. Ross Davis, "The Athletic Toll," *Texas Journal of Medicine* 60 (1964): 661-664.

[72] "Helmets Tuned in to Aid Science," *New York Times*; October 30, 1963.

allowed their sons to participate in tackle football echoed the driving comparison. The *Los Angeles Times* noted, 'A father reflects the sentiments of other dads when he says "they're safer than if they were in an auto on a highway.'"[73] In 1962, Coach Fred Parks of Oak Lawn told the *Chicago Daily Tribune*, "As a father and as a coach, I would a million times rather have my son on the football field than riding around in an automobile."[74]

Such comparisons, whether made by parents, coaches or doctors, relied on a false dichotomy: playing football and riding in a car were not mutually exclusive options for boys. The quality and sources of the data used in presenting such flawed comparisons were also questionable. In 1966, Dr. Kenneth S. Clarke of the American Medical Association's Department of Health Education critiqued the careless use of statistics in debates over the safety of youth sports. In an article for *JAMA* he sought "to bring more professional sensitivity to this concern" by more judiciously tabulating outcomes and incorporating key variables such as the number of participants in the activity and how often they were exposed to the risk.

In particular, Dr. Clarke observed that the American Football Coaches Association and the National Federation of State High School Athletic Associations relied on counts of football fatalities that distinguished between "direct" and "indirect" football-related deaths. These organizations considered fatalities caused by injuries sustained while playing football to be direct, whereas football-related deaths attributed to systematic failure, such as heat strokes, were categorized as indirect. These counts were widely promulgated. In particular, a 1965 *Statistical*

[73] It is unclear whether this *Los Angeles Times* article is referring to a hypothetical father, or quoting an actual but unnamed father on the sidelines. Clyde Snyder, "Hard but Safe-Hitting Midget Grid Lines Bring Cheers From Parents," *Los Angeles Times*; November 17, 1957.

[74] David Condon and E.W. (Pat) Patten, "So Your Son Wants to Play Football!" *Chicago Daily Tribune*; September 16, 1962.

Bulletin published by the Metropolitan Life Insurance Company, relying on the AFCA's counts, drew media attention. This report observed that the overall number of deaths "directly" associated with football among high school and college players had increased between 1955–1959 and 1960–1964 (see Figure 5).[75]

Figure 5. Number of Accidental Deaths Due to Football, Metropolitan Life, 1965[76]

Type of Game	**Direct Causes**		**Indirect Causes**	
	1955-59	**1960-64**	**1955-59**	**1960-64**
Sandlot	19	13	4	10
High School	49	66	18	34
College	6	12	4	7
Professional and Semi-professional	4	4	1	2
Total	78	95	27	53

Dr. Clarke considered such classifications to be misleading, especially because they were strongly "influenced by the specificity of information provided by a voluntarily returned questionnaire" sent to the coaches or athletic directors. Furthermore, "few would argue that the

[75] Metropolitan Life Insurance Company, "Competitive Sports and Their Hazards," *The Statistical Bulletin of the Metropolitan Life Insurance Company* 46 (1965): 1-3. The *Statistical Bulletin* circulated Metropolitan Life Insurance Company data and health findings among policyholders and health activists. For a history of how American life insurance companies quantified risk, see Dan Bouk, *How Our Days Became Numbered: Risk and the Rise of the Statistical Individual* (Chicago: University of Chicago Press, 2015). The *Boston Globe* reported that auto racing and football had been shown to cause the largest number of deaths in competitive sports. Nonetheless, the reporter cautioned readers that while the statistical survey provided interesting information, it was imperfect: "It is not possible to measure accurately the relative hazards because adequate data on the number of participants and the frequency and duration of participation is lacking." George Vass, "Auto Racing, Football Account for Most Deaths in in Sports," *Boston Globe*; January 2, 1966.

[76] Data source: Committee on Injuries and Fatalities, American Football Coaches Association. Table adapted from Table 2 in: Metropolitan Life Insurance Company, "Competitive Sports and Their Hazards," *The Statistical Bulletin of the Metropolitan Life Insurance Company* 46 (1965): 1-3.

heat-stroke deaths in the first week of football practice are not 'directly' related to going out for football." Rather than focusing merely on the counts of deaths sustained while playing football as compared to other activities, Dr. Clarke suggested the actuarial question: "Does a young male increase his statistical risk of death by announcing his candidacy for football?"[77]

After reviewing significant pitfalls in interpreting the available statistics, Dr. Clarke sought to build a different model incorporating exposure estimates based on a range of assumptions (specifically a high school football season lasting 11 weeks, with two hour-long practices scheduled five days per week, and further accounting for periodic player absences due to injuries). He then compared the resulting fatality rate per hours of exposure to the fatality rate associated with "daily living" and with motoring; he found in his analysis that the football fatality rate was higher in both cases. Dr. Clarke did not use his analysis to advocate for or against youth football, but rather to argue that such calculations of fatality rates did not indicate whether the hazards outweighed the benefits of any of the examined activities. He added, furthermore, that one could not know what a football athlete might have otherwise chosen to do had he not participated in football. But "certainly, he would not choose football over riding in a car on the basis of the relative risk of death resulting from this exercise."[78]

Proponents of youth football who continually pointed to the risks of driving were certainly not alone in attempting to compare the risks of the sport to other dangerous activities.

[77] Kenneth S. Clarke, "Calculated Risk of Sports Fatalities," *Journal of the American Medical Association* 197;11 (1966): 172-174. To collect data on football fatalities, the AFCA relied on "the assistance of coaches, athletes, trainers, athletic directors, executive officers of state and national athletic organizations, a national newspaper clipping service, and professional associates of the researchers." Frederick O. Mueller, "Catastrophic Head Injuries in High School and Collegiate Sports," *Journal of Athletic Training* 36;3 (2001): 312-315.

[78] Kenneth S. Clarke, "Calculated Risk of Sports Fatalities," *Journal of the American Medical Association* 197;11 (1966): 172-174.

To portray football in a less favorable light, one doctor turned to comparisons to occupational hazards. In 1963, physician Frank Tabrah examined the risk of disabling injury in high school football as compared to underground coal mining in a paper provocatively titled "High School Football: Valuable Sport or Sado-Masochistic Excess?" As suggested by the paper's title, Tabrah employed the coal mining comparison to contend that football was not a valuable sport given the risks. In his analysis, he compared 1962 data on high school football injury rates in two Hawaiian high schools with injury rates in high risk occupations such as logging, mining, and construction. Tabrah made the incredible claim that the frequency of injuries in football was nearly 14,000 times greater than in underground coal mining, the most dangerous American industry.[79]

In addition to asserting that the hazards of football outweighed the benefits, Tabrah further argued that football was not worthwhile because so few athletes continued to play the sport past their school years. "Astonishing amounts of time and effort are expended on a sport skill that virtually no one utilizes after high school or college age." Tabrah argued that activities in which people might engage throughout their middle age and older years, such as tennis or swimming, should be prioritized over football and other risky sports predominately played by adolescents and young adults. This notion that "lifetime" sports should take precedence in physical education programs would continue to feature in debates over the safety and worth of youth football.

[79] Tabrah writes that he computed injury frequency and severity rates for hazardous occupations according to the American Standard Method of Recording and Measuring Work Injury Experience, Code Z 16.1-1954. Frank L. Tabrah, "High School Football: Valuable Sport or Sado-Masochistic Excess?" *Hawaii Medical Journal* 3;2 (1963): 106-108. See also page 23 of Blyth and Mueller's epidemiological study of high school football injuries for a discussion of Tabrah's analysis. Carl S. Blyth and Frederick O. Mueller, *An Epidemiologic Study of High School Football Injuries in North Carolina, 1968-1972* (Washington, DC: U.S. Government Printing Office, 1974), 23.

Yet Tabrah's view was a distinctly minority opinion. In addition to the hundreds of thousands of parents who enrolled their sons in football programs, many medical professionals also endorsed the notion that the risks of serious injury or death were small compared to the benefits. A. Ross Davis, the orthopedic surgeon, reviewed athletic injuries in the Houston Independent School District, where football commanded the largest number of participants among the sports on offer. Acknowledging that some athletic injuries requiring treatment were inevitable, Dr. Davis concluded that overall these injuries were "not so severe as to negate the obvious advantages of participating."[80]

The particular benefits Dr. Davis highlighted included that children were participating in organized activities "rather than spending their afternoons in leisure and in the corner drug stores."[81] Writing for the *Journal of the Medical Association of Georgia*, Dr. Fred Allman, an orthopedic surgeon and sports medicine pioneer, similarly highlighted the moral and social advantages of sports. In describing the risks and benefits of competitive sports for boys younger than fifteen, he contrasted the value of organized athletics with alternative activities for youths. Dr. Allman wrote that in 1965, a ten-week YMCA tackle football program served 1,450 boys in grades two through seven, with only 31 recorded injuries, of which only six were fractures. During the same period, Dr. Allman asserted, a similar number of boys would have surely been injured falling from trees, riding bicycles, or even being hit by a car. Furthermore, "some might have even had time to engage in a mischievous act or embarked on a career in crime." He approvingly quoted former president Herbert Hoover as stating, "Next to religion, sports are the

[80] A. Ross Davis, "The Athletic Toll," *Texas Journal of Medicine* 60 (1964): 661-664.

[81] *Ibid*.

greatest developer of morals."[82] Tackle football was surely worth the risk if the alternative was for boys to embark upon a life of crime. To some extent, then, the belief in the moral benefits of football rendered moot the concerns about the sport's physical risks. Few physical costs could outweigh the perceived social benefits of football when the sport was framed as a fundamental defense against delinquency and immorality among youth.

Football coaches and newspapers helped translate such perspectives on the moral and health benefits of football for the general public. In 1962, the *Chicago Daily Tribune* examined high school football safety by surveying 160 Illinois high school coaches. Addressed to parents, the article explicitly characterized the question as a matter of weighing the physical and moral benefits of football with the potential for injury. "Will the bone-crunching game of football make a man or a cripple out of your high school age son?" the newspaper asked its readers. "The answer, Mom and Dad, is very much up to you."[83]

Reporting that most football coaches did not think that football injuries were increasing, despite "scare statistics," most of the article instead consisted of advice to parents to keep their sons safe. The list of rules included making sure their sons reached peak physical condition before the football pre-season, checking their son's equipment for proper fit, not pampering their son "over minor bruises," and not seeking to advise the coach or school's athletic director. While parents were expected to investigate any possible injuries their child may have sustained, one

[82] Fred L. Allman, Jr., "Competitive Sports for Boys Under Fifteen Beneficial or Harmful?" *J.M.A. Georgia* 55 (1966): 464-466. Allman likely derived the Herbert Hoover quote from a 1960 speech where Hoover accepted a gold medal award from the National Football Foundation. As reported by the *Christian Science Monitor*, Hoover described sportsmanship as "the greatest teacher of morals except religion . . . . From true sportsmanship radiates moral inspiration to our whole nation." "Hoover Praises Sports as Teacher of Morals," *Christian Science Monitor*; December 7, 1960.

[83] David Condon and E.W. (Pat) Patten, "So Your Son Wants to Play Football!" *Chicago Daily Tribune*; September 16, 1962.

coach advised that "players and parents not be so injury conscious that they regard every hangnail as a catastrophe." Players and parents ought not to overly fret about minor injuries, and they also needed to take responsibility for learning the basics of the sport.[84]

In another article, football coach Lou Little similarly advised fathers that a little "home-coaching" on their part would help eliminate bad habits and prevent injuries. "Football's safety principles are so few in number and so easy to grasp that it's foolish for a boy to be hurt for lack of knowing them."[85] Meanwhile, the president of a youth football league in California claimed that injuries were highly unusual, suggesting that those that did occur were attributable to the poor physical condition of individual players. He told the *Los Angeles Times* that "the rare instances in which injury has occurred have been traced to a team permitting an overweight boy to play."[86] Such articles not only served to minimize the potential risks of football, but also to largely transfer the responsibility for addressing these risks from sports organizations and coaches to the parents and even players themselves. The 1962 *Chicago Daily Tribune* article concluded that tackle football could be "just about as safe as Mom and Dad care to make it."[87]

Mechanism of Injury, Coaching Methods, and Spearing

In addition to emphasizing the importance of parental supervision, doctors and coaches also considered whether particular football techniques might be contributing to especially severe injuries. In a 1959 article examining the mechanics of football injuries, orthopedist Donald

[84] David Condon and E.W. (Pat) Patten, "So Your Son Wants to Play Football!" *Chicago Daily Tribune*; September 16, 1962.

[85] Lou Little, "Teach Your Boy to Play it Safe," *Baltimore Sun*; September 26, 1954.

[86] Clyde Snyder, "Hard but Safe-Hitting Midget Grid Lines Bring Cheers From Parents," *Los Angeles Times*; November 17, 1957.

[87] David Condon and E.W. (Pat) Patten, "So Your Son Wants to Play Football!" *Chicago Daily Tribune*; September 16, 1962.

Slocum wrote that medical professionals had paid only "scant" attention to the mechanics of football injuries, but that "a small corps of active observers—the team physicians, the coaches, and the trainers" —had observed recurring patterns of situations that were especially risky. As with protective equipment, such observations were hampered by a lack of data. Recognizing that he was expressing an opinion rather than documented facts, Dr. Slocum speculated that the knee was a prime culprit. "Although no accurate statistics are available as to how these injuries have occurred, it is my feeling that the most lethal weapon in football is the oncoming knee." He provided a "rough example" of a 185-pound varsity level fullback who could run a 100-yard dash in 10.5 seconds. This hypothetical athlete could kick 500 pounds with his knee while standing, 625 pounds with one step, 725 pounds with two steps, and so on. Noting how much farther football players ran during actual play, and adding the formula "momentum equals mass times velocity," Dr. Slocum left it to his readers to imagine the real-life risks.[88]

Dr. Slocum further suggested that whether and how a player was injured, or caused harm to another player, might be attributed to their personality and approach to the sport. "An aggressive, alert player may receive a serious head injury, and the fatigued, weak or 'loafing' player may be doubled up in flexion and receive serious spinal trauma." Doctors particularly suspected players who were unskilled or reluctant to participate in football as prone to exaggerating their injuries. As several team physicians explained in 1959,

> A boy may use the injury as an excuse for not being on the first team. He may not have any real desire to play football, but feels he should because of his size; his family, or fraternity brothers may have encouraged him to go out for the team. This boy may not

[88] Donald B. Slocum, "The Mechanics of Football Injuries," *JAMA* 170 (1959): 1640-1646. In 1975, Dr. Slocum would be named "Mr. Sports Medicine" by the American Orthopedic Society for Sports Medicine. Clinton L. Compere, "Donald B. Slocum, MD: Mr. Sports Medicine of the Year," *Journal of Sports Medicine* 3;5 (1975): 260.

> want to heal his injury. A surgeon cannot put desire into a knee joint. We have been impressed with how few injuries we have seen after a winning ball game.[89]

Other medical experts on sports trauma similarly agreed that there were athletes whose personality or player "types" left them especially susceptible. In response to the question "Is there such a thing as the injury-prone player?" at a 1962 symposium on football injuries, Dr. Richard C. Schneider responded in the affirmative. "Yes. The boy who does not actually wish to play football but is under pressure from his family or from his schoolmates to participate tends to have a high incidence of actual physical injuries as well as a slow rate of recovery. In addition, he may be subject to other symptoms, such as headaches which may be due to psychic tension."[90] None of these doctors had any data available to support the claims that there were certain "loafing" or otherwise "injury prone" types of players who suffered higher rates of injuries or recovered at slower rates than other athletes.

Although player attitudes and characteristics were blamed in part for injuries, coaches had consistently acknowledged responsibility for teaching their players how to play more safely. In fact, every AFCA fatality report from 1931 to 2008 mentioned improving coaching methods as a preventive measure to reduce football injuries and fatalities.[91] Many recommended coaching techniques were relatively generic. In the 1950s, two journals aimed at coaches, *Scholastic Coach* and *Athletic Journal*, often featured articles on football that suggested improving various conditioning techniques; adding opportunities for recovery and treatment, such as allowing teams

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[89] Stephen E. Reid, Edward J. Helbing, Jr. and Thomas E. Helion, "Knee and Ankle Injuries in Football," *Quarterly Bulletin of the Northwestern University Medical School* 33 (1959): 250-253.

[90] Slocum, "The Mechanics of Football Injuries," 1959; "Football Injuries—A Symposium," *United States Navy Medical Newsletter* 40; 6 (September 21, 1962): 3-10.

[91] Frederick O. Mueller and Robert C. Cantu, *Football Fatalities and Catastrophic Injuries, 1931-2008* (Durham, North Carolina: Carolina Academic Press, 2011), 12.

to go to the sidelines during time outs; and fostering improved sportsmanship and player attitudes. For example, to minimize injuries purportedly associated with boys' attitudes, ex-trainer Larry Cappiello advised scrimmaging during practices where boys would be hit by their teammates. In this way, "the boys receive that 'first shot' which seems to cause so many injuries. But they receive it in a different manner. There is no tenseness and the boys are more relaxed . . . . that fear of the 'first shot' is gone." Eliminating fearful attitudes was thus promoted as a means to promote safety.[92]

In the early 1960s, however, concerns over coaching methods increasingly centered around one specific technique: spearing. "Spearing" essentially involved using one's head as a weapon to block another player. Herbert Crisler, the chairman of the NCAA's rules committee, drew attention to the need to potentially restrict the use of the head in blocking and tackling if football injuries persisted. He pointed to a recent survey, conducted for a sports equipment firm by the Armour Research Foundation of the Illinois Institute of Technology, reporting that head, neck, and spinal injuries were not declining. He attributed these injuries to "spearing and goring," and he attributed these risky techniques in turn to the advent of helmets with face masks which "give a player the confidence to drive in on an opponent with his head." Consequently, he concluded, either the design of the helmets or the practice of spearing, which was then perfectly legal under the rules of football, would have to change. "Unless we can find new equipment to reduce head and neck injuries, we may have to do something about these new techniques."[93]

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[92] Larry Cappiello, "New Football Seasoning," *Scholastic Coach* 19;9 (1950): 7, 57-59. Whether or how much players ought to be allowed to scrimmage during practice was an ongoing debate. See, for example, Bob Priestly, "Scrimmage: Yes or No," *Scholastic Coach* 22;1 (1952): 16, 71.

[93] Joseph M. Sheehan, "Football Warned of Curb on Head Blocking if Heavy Injury Toll Continues," *New York Times*; October 24, 1962. The origin and geographic distribution of the technique of spearing was a source of interest among doctors concerned about its potential relationship with injuries. As neuroscientist Richard Schneider

Doctors, too, were taking note of the risks of spearing as they began to conduct the first large scale studies of youth football injuries. A 1964 study of over 19,000 high school players in Southern California found that about 61 percent of the 203 players who had sustained head injuries had been taught to spear. The authors did not go so far as to argue that the dangerous technique ought to be removed from all levels of play, but instead framed their objections in terms of the youth of high school players. Children who were not yet fully developed adults seemed particularly vulnerable to a technique in which the head was used as a weapon. "One must question the place of spearing in high school football. A man who plays football at a university is quite different from a boy playing at the high school level."[94]

At the 1963 meeting of the National Federation of State High School Athletic Associations, Dr. Thomas Shaffer of the American Medical Association warned attendees of the dangers of both spearing and poorly made helmets. Both these issues had drawn much media attention in the early 1960s. While there was "great hazard" in the use of inexpensive, poor quality helmets, Dr. Shaffer also emphasized that the additional problem of spearing was not fundamentally a matter of equipment, but rather of "coaching ethics." The face guard provided players with essential protection for their face and mouths, and should not be eliminated from the game or used as a weapon. Dr. Shaffer cautioned that as long as spearing was employed as a technique, injuries would persist.[95]

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observed, "It is *alleged* that "spearing," *i.e.*, a tackler using his head as a weapon, planting it in the ball carrier's midsection without attempt to tackle with the arms, is more frequently taught the further westward one travels. This is purely hearsay and requires confirmation." Richard C. Schneider, "Serious and Fatal Neurosurgical Football Injuries," *Clinical Neurosurgery* 12 (1964): 2226-236.

[94] Richard H. Alley, "Head and Neck Injuries in High School Football," *JAMA* 188 (1964): 418-422.

[95] "National Federation Meeting," *The Kentucky High School Athlete* (February 1963): 1, 9. Accessed August 5, 2015 at Encompass, A Digital Archive of the Research, Creative Works and History of Eastern Kentucky University

Figure 6. Opening Day, Pop Warner Football, c. 1966[96]

Pop Warner Football's First Fatality

Unfortunately, even the most supervised and organized youth football was not immune to the most tragic of outcomes for a young football athlete. On October 3, 1964, the Pop Warner youth football league saw its first reported football fatality.[97] During a practice session in San Jose, California, a 14-year-old player, Keene Mitsuru Yamamoto, complained of pain in the back of his head. His discomfort did not diminish even when his coach allowed him to rest on the bench and remove his helmet. Yamamoto lost consciousness, was taken to a hospital, and

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at http://encompass.eku.edu/.

[96] Photograph by G.B. Williams, Jr., "Opening Day Pop Warner Football - c.1966," *Maynard Historical Society Archives*, accessed May 4, 2014, http://collection.maynardhistory.org/items/show/3613. Used with permission of the Maynard Historical Society.

[97] "Brain Injury Kills Pop Warner Gridder," *Los Angeles Times*; October 4, 1964; Joseph Jares, "Pop Warner Football Stirs Enthusiasm, Controversy," *Los Angeles Times*; November 29, 1964.

ultimately did not survive brain surgery for a blood clot. According to the *Los Angeles Times* story on the tragedy, doctors absolved Pop Warner organizers of blame for Yamamoto's death. They stated that the physical examination given to Pop Warner players prior to participation would not have shown Yamamoto's blood clot.[98] Newspaper accounts were unclear as to whether Yamamoto had a pre-existing blood clot, and indeed, it may have been impossible from available medical records to tell.

Nonetheless, at the time, Yamamoto's death was used as evidence of football being a dangerous activity, prompting a two-part series in the *Los Angeles Times* on the issue. In November 1964, reporter Joseph Jares examined the popularity of Pop Warner football and the controversy over its safety for children. The boy's death had furnished an opportunity to consider arguments for and against organized youth football, "an activity in which miniature Jim Browns crash into miniature Sam Huffs while miniature pompon girls prance on the sidelines." Jares cited an official Pop Warner booklet stating that approximately 20,000 teams, with over half a million players, played Pop Warner football throughout the United States and in several foreign countries. With such numbers, and with the recent death of a participant, examining the debates over the safety of youth football was of great public interest.[99]

According to Jares, supporters of the youth sport asserted that football promoted academic achievement and improved moral character among young players, and that football was no more dangerous than other activities. For instance, one parent, while acknowledging there was some danger of injury, felt the risk was "minimized by the fact that the kids that age are used to things like, oh, the rough and tumble, climbing fences and falling from trees."

[98] Joseph Jares, "'Safety First' Stressed in Pop Warner Football," *Los Angeles Times*; November 30, 1964.

[99] Joseph Jares, "Pop Warner Football Stirs Enthusiasm, Controversy," *Los Angeles Times*; November 29, 1964.

Jares also quoted Dr. Joel Adams, an orthopedic surgeon who had studied injuries in organized youth football and baseball, who recommended several safety rules that would help protect players. One was that: "Head injury with even momentary loss of consciousness automatically rules out the player for the remainder of the SEASON" (emphasis in original).[100] This recommendation indicated that at this time, physicians thought head injuries should be taken seriously, and should not be treated as a minor matter of a player seeing stars or getting his head dinged. Elsewhere, critics would argue that youth football coaches rarely followed such cautious safety practices. As one reporter later wrote in 1967, "How many young football players are pushed on to the field with broken or bruised ribs, wrists, arms, and minor head injuries? A shot of pain-killer and in they go. How many times do you see a young man knocked out on one play return immediately to action after a time out or brief rest?"[101] In this 1964 series, however, Dr. Adams asserted that sponsors of youth football took medical supervision seriously, and that physical examinations and penalties for dangerous plays would mitigate the sport's risks.

Although California newspapers reported Yamamoto's death while playing youth football when it occurred, Yamamoto's death was not recognized in the medical literature examining the health impacts of tackle football for adolescents. Just two years later, in 1966, Dr. Fred Allman, Jr., then-vice president of the American College of Sports Medicine (for which he would later serve as president in 1968 and 1969), wrote an article examining the risks and benefits of competitive organized sports. While acknowledging that deaths might occur as a result of organized sports, Allman emphasized that they were very rare. He further asserted that "one of the largest tackle football programs for youngsters, the Pop Warner program, has had

[100] Joseph Jares, "'Safety First' Stressed in Pop Warner Football," *Los Angeles Times*; November 30, 1964.

[101] John Hall, "Rising Rate of Football Deaths Indicates Safety Measures Needed," *Los Angeles Times*; November 11, 1967.

over one million participants in the past 34 years without a fatality, a record that speaks well for the leadership and organization within the program."[102]

Moreover, the connection between the tragedy and youth football was gradually erased in subsequent newspaper accounts of football safety. In 1974, a *New York Times* examination of youth football referenced Yamamoto's death as having a distant association with the Pop Warner league: "In 45 years there has been only one fatality remotely connected with Pop Warner."[103] Four years later, in 1978, another *New York Times* story amended the claim to read that in almost fifty years of Pop Warner football, "there has not been one injury-related death."[104] This account implied that Yamamoto's death was not associated with any injury sustained while playing football. By the 1980s, Yamamoto's existence as a Pop Warner participant essentially disappeared: news reports were claiming that in the history of Pop Warner youth football, "there have been no fatalities among more than 1 million participants."[105] The claim persisted through the 1990s. In 1996 *Sports Illustrated for Kids* published a special supplement issue for parents on "how to help your kids get the most out of sports." An article focused on football asserted, "Pop Warner has never had a player fatality in its 67-year history."[106]

Nonetheless, this 1964 series characterized football as being "reasonably safe" provided doctors' recommendations were followed, and suggested that the organizers of youth football

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[102] Fred L. Allman, Jr., "Competitive Sports for Boys Under Fifteen Beneficial or Harmful?" *J.M.A. Georgia* 55 (1966): 464-466.

[103] Gerald Astor, "Block That Fracture! Midgets, Peewees, and Junior Peewees Give Their All," *New York Times*; November 10, 1974.

[104] Gerald Eskenazi, "Are Little League Sports Too Big For Children?" *New York Times*; November 16, 1978.

[105] Jody Homer, "Too Young For Sports? Marathons at Age 7, Football at 8—Doctors Debate Effect on Children," *Chicago Tribune*; June 5, 1983.

[106] Kent Hannon, "Is Football Safe for Kids?" *Sports Illustrated for Kids* 8;9 (September 1996), 22.

largely did exercise such prudence. "Pop Warner safety-first football generally lives up to its slogan," Jares reassured his readers.[107]

Doctors, Coaches, and American Values

As the United States experienced extraordinary social changes in the 1960s, coaches and athletic administrators were often associated with Republican-leaning politics and more conservative beliefs. As American author James Michener characterized his own coach in his 1976 book *Sports in America*, "Like most coaches, he considered Democrats bad, and labor union people, and troublemakers, and college professors, and radicals, and anyone not wholeheartedly in support of the good society as he experienced it."[108] In the face of unrest and challenges to powerful institutions, coaches and athletic administrators promoted tackle football in the 1960s as a buttress against seemingly unpatriotic and undesirable behavior among youth. They argued that athletic programs in general, and football in particular, could foster in students a sense of loyalty to the United States and to "traditional" American values. In 1967, Art Baker, a football coach at Clemson University, summarized this perspective:

> Perhaps never in the history of the United States have we needed to develop loyalty so badly as today. Everywhere we look it seems some group of American youth is demonstrating against something, often nothing worthwhile. What kinds of homes and schools must we have to be turning out such products. . . . I am firmly convinced that if all American students were a part of a good athletic program we wouldn't have the draft card burnings, the long-haired beatniks, the burning of our sacred "Old Glory," or the waving of the enemy's flag in our streets.[109]

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[107] Joseph Jares, "'Safety First' Stressed in Pop Warner Football," *Los Angeles Times*; November 30, 1964.

[108] James Michener, *Sports in America* (New York: Random House, 1976): 17.

[109] Art Baker, "A Coach's Responsibility to His Players," *The Journal of the South Carolina Medical Association* 63 (November 1967): 400-404.

Coach Baker's interpretation of the moral benefits of sports for American youth was addressed to physicians reading the *Journal of the South Carolina Medical Association.* An accompanying editorial comment noted that the state medical association was greatly concerned with safety in athletics, and was consequently seeking to promote close relationships between physicians and athletic coaches. As part of this effort, Dr. Judson E. Hair, the chairman of the association's Committee on the Medical Aspects of Sports, had submitted Coach Baker's article for publication.

In this way, the ability of sports to foster American pride and loyalty in response to activism in the streets was foregrounded by a professional medical association as part of its examination of the medical aspects of athletics. Coach Baker's article illustrates the close connections between coaches and physicians in framing the risks of youth football. Cultural fears similar to Coach Baker's persisted among physicians throughout the 1970s. Writing of the risks and benefits of youth football in 1975, orthopedic surgeon Dr. Richard W. Godshall editorialized, "I would certainly rather have one of my children play football than smoke 'pot' in some dark room."[110] The conceptualization of football injuries as a medical issue was thus deeply tied up with ideological, moralistic, religious, and even nationalistic beliefs about the role of youth sports.[111]

[110] Richard W. Godshall, "Junior League Football: Risks vs. Benefits," *Journal of Sports Medicine* 3;3 (1975): 139-144.

[111] It is also noteworthy that Baker's article included an extended reflection on the religious, specifically Christian, aspect of coaching, reinforcing the connection between American football, nationalism, and Christianity: "But each of us has received the same special blessing from our Creator by having the wonderful opportunity, responsibility and talent of working with and influencing the lives of these young people. I feel that we owe a debt to God for this special blessing. I believe we should use whatever influence we have on these young lives for the good of His Kingdom. To me this is our greatest responsibility." Art Baker, "A Coach's Responsibility to His Players," 403.

These beliefs would continue to inform discussions of youth football safety even as growing concerns about serious injuries and the quality of protective equipment prompted coaches and physicians to seek better injury data and equipment standardization. By the mid-1960s, coaches and doctors were finding that the addition of plastic helmets with mouth guards had altered the techniques in youth football in ways that seemingly increased the risks of injury. The ensuing discussions raised significant concerns about the potential need for further equipment changes and/or rule changes in the game, as well as questions about whether youth football players required different sets of rules and coaching given their apparent vulnerability to the risks. The concerns about spearing and the prevalence of head injuries further highlighted the lack of systematic epidemiologic data or standardized equipment. The AFCA's annual fatality reports, analyses from team doctors, observations by dentists, and numbers obtained from insurance companies had all helped doctors and coaches identify areas of concern. But it was increasingly clear that these methods were not sufficient. In addition to organizing larger scale studies and conferences specific to sports-related injuries, doctors and coaches would begin calling for the creation of standards that all football helmets would need to meet, a development that will be discussed in chapter three.

Chapter Three: "Such Hazards Must Be Controlled": Epidemiology, Equipment, and Helmet Standards, 1960s-1970s

"All current methods of testing the effectiveness of headgear are somewhat unsatisfactory. . . . The single most important fact to remember is not what happens to the helmet but what the effect is upon the underlying brain."

-Glenn W. Kindt, Elwyn R. Gooding and Richard C. Schneider, 1973[1]

How could parents ensure that the "bone-crunching game of football" would turn their child into a healthy young man? Protective equipment was one of the most prominent answers to this question. Although major sales growth in football equipment designed specifically for child athletes had not yet taken off to sporting goods manufacturers' expectations by the 1950s, football equipment sales for high school, college and professional players were a boon to sporting goods manufacturers.[2] By the mid-twentieth century it was widely assumed that not only was protective headgear an essential feature of the sport, but that football owed its very survival to the development and refinement of such gear. For instance, in 1950 a columnist for the *Chicago Tribune* asserted that the football of the early 20th century had been rendered far less dangerous "when the players were compelled to wear headgear, braced shoes, and pads. If such protective measures had not been adopted it is questionable whether football would have survived as one of our national sports."[3]

[1] Glenn W. Kindt, Elwyn R. Gooding and Richard C. Schneider, "A Method of Comparing the Impact Absorption Characteristics of Football Helmets," in *Head and Neck Injuries in Football: Mechanisms, Treatment and Prevention,* ed. Richard C. Schneider (Baltimore: The Williams & Wilkins Company, 1973): 228-240.

[2] Thomas Abbott, "Gridiron Piles Up Big Gains For Business, Equipment Firms Score Heavily," *Chicago Daily Tribune*; October 2, 1953.

[3] T.R. Van Dellen, "How to Keep Well: Football Mishaps," *Chicago Tribune*, September 29, 1950.

This chapter examines how protective equipment featured in debates over the safety of youth football, from the addition of mouth guards and plastic face masks to the development of the first football helmet standards in the 1970s. The increasingly systematic study of football injuries by physicians and state athletic associations in the mid-late 1960s raised questions about whether focusing on protective equipment was the most effective way to prevent certain kinds of football injuries. Nonetheless, calls by medical, public health and engineering professionals for research and evaluation of football equipment contributed to the formation of several equipment standards committees with a focus on football equipment, particularly helmets. American consumer safety and occupational health movements of the 1960s, especially research and legislation related to automobile safety, influenced the creation and research of these organizations. Concerns about football helmet related lawsuits, particularly in the context of a move toward strict liability in tort law, also motivated the standardization and evaluation of football equipment. Despite the difficulties involved in testing the effectiveness of headgear, helmet standardization would provide coaches, parents and athletes reassurance that the hazards of youth football could be controlled.

"The Best Football Equipment Available"

In the 1950s and 1960s, there were no testing or safety standards that football helmets were required to meet before they could be sold to consumers. Dr. Stephen Reid, a researcher and team physician at Northwestern University, described the resulting range in quality: "Football helmets may be purchased in toy departments, sporting goods stores, or in plants where football helmets are manufactured and the head gear varies in quality from mere toys to the

Cadillac class."[4] Indeed, the American Medical Association warned parents that helmets sold as toys could not withstand low impacts, were sharp enough to cause lacerations, and had internal padding that provided no protection on impact. Consequently, the safety of children who wore such helmets was "in serious jeopardy."[5] Many schools, particularly those that served poor or marginalized communities, could not—or chose not—to invest the money in providing their students with "Cadillac class" helmets. As Charles Trimble recalled of his school days at the Pine Ridge Indian Reservation in South Dakota in the late 1940s, "Our original uniforms were straight out of the Jim Thorpe era –mothball smelly, lightly padded and outright dangerous to play in. We were ridiculed by the BIA [Bureau of Indian Affairs] boarding school jocks that we were the only team around that could fold up our helmets after the game and keep them in our back pockets."[6]

While doctors expressed concern about the quality of some of this football equipment, they also focused on improving such equipment as a key means to preventing injuries. In prominent medical journals, physicians called for more research. Notably, they asserted that changes in helmet construction could address particular mechanisms of injury in football. In particular, the American Medical Association's Committee on Sports Injuries, established in 1953, focused on football head injuries as one of the first problems to come before the committee. The committee encouraged "the production of a newer, safer type of football helmet"

[4] Stephen E. Reid, "Radio Telemetry in a Study of Football Helmets." American Medical Association Committee on the Medical Aspects of Sports. Proceedings of the National Conference on Head Protection for Athletes. (Chicago, IL: American Medical Association, 1962), 40-41.

[5] "Parents Urged to Check Gear of Footballers," *New York Times*; August 5, 1964.

[6] Charles Trimble, "Glory Days at the Mission School," *Indian Country Today Media Network*, October 25, 2006. Accessed July 24, 2015 at http://indiancountrytodaymedianetwork.com/2006/10/25/glory-days-mission-school-128899. See also Charles Trimble, *Iyeska* (Indianapolis, IN: Dog Ear Publishing, 2012).

in response. In 1957, Dr. Allan Ryan, the committee's chairman, asked Edward Dye, a safety engineer with Cornell's Aeronautical Laboratory, to prepare a set of recommended minimum performance standards for protective headgear.[7] A 1955 article published in *Sports Illustrated*, reporting on Dye's previous research on protective sports gear, described the available football equipment of the day as "an unscientific patchwork of steel-hard fibers and plastic which not only fails to protect the wearer but has converted him into a human battering ram."[8]

School sports administrators, too, had called for improved equipment for years, at both the high school and college level. For example, the September 1948 issue of the *Kentucky High School Athlete* told its readers that all school groups were interested in improved and more affordable equipment, given the publicity that football injuries received, as well as the high costs of athletic equipment. As a result, major sporting goods manufacturers were working "at top speed" to produce football helmets and shoulder pads that offered greater protection. Nonetheless, the manufacturers cautioned against the overly optimistic belief "that certain pieces of equipment constitute a panacea which will eliminate all fatalities and serious injuries. In a contact game, it is doubtful whether all danger [*sic*] hazards will ever be eliminated."[9]

The American Football Coaches Association (AFCA), representing football coaches across the United States, also continually insisted on the importance of better protective gear, with a particular focus on helmets. At the AFCA's 1931 annual meeting, Coach Pop Warner had

[7] Edward R. Dye, "Engineering Research on Protective Headgear," *American Journal of Surgery* 98;3 (1959): 368-372; Allan J. Ryan, "Organized Medicine and Athletics: The Role of the American Medical Association Committee on Injury in Sports," *American Journal of Surgery* 98;3 (1959): 325-327.

[8] William H. White, "Armor that Does as Much Harm as Good," *Sports Illustrated*; October 31, 1955.

[9] "Here and There Over the Nation," *The Kentucky High School Athlete* (September 1948): 8-9. Accessed August 5, 2015 at Encompass, A Digital Archive of the Research, Creative Works and History of Eastern Kentucky University at http://encompass.eku.edu/.

told attendees that the hard material used in football headgear was contributing to injuries, and that a softer material ought to be used to help protect players. In their review of recommendations annually promulgated by the AFCA, two physicians observed that strongest recommendation from the AFCA's 1946 report, in capital letters in the original, stated: "Appoint at once a qualified committee to scientifically study the construction and material used in the present headgear. This study committee, it is hoped, can recommend a headgear that will materially reduce the large number of present fatalities caused by skull fractures and cerebral hemorrhage."[10]

There is no evidence that this AFCA helmet recommendation resulted in any action taken. Indeed, the authors of the organization's 1951 report acerbically noted that "there seems to be little reason for making new recommendations, as those submitted in 1950 were only infrequently, if ever, put into practice."[11] Nonetheless, nearly every year during the decade 1951-1960, the report of the American Football Coaches Association included recommendations to initiate helmet research to reduce the number of direct fatalities from the sport and improve the safety of football. As of 1960, however, the recommended helmet research had not yet been published.[12] Despite all the calls for research, there were few laboratories devoted to assessing athletic equipment, and few sources of funding to conduct such research. Furthermore, evaluating the variety of available equipment posed a significant challenge. In his studies of

[10] Glenn Scobey Warner, "Football Rules," *Athletic Journal* 12;7 (1932): 55-57. Frederick O. Mueller and Robert C. Cantu, *Football Fatalities and Catastrophic Injuries, 1931-2008* (Durham, North Carolina: Carolina Academic Press, 2011), 30.

[11] Frederick O. Mueller and Robert C. Cantu, *Football Fatalities and Catastrophic Injuries, 1931-2008* (Durham, North Carolina: Carolina Academic Press, 2011), 43.

[12] Frederick O. Mueller and Robert C. Cantu, *Football Fatalities and Catastrophic Injuries, 1931-2008* (Durham, North Carolina: Carolina Academic Press, 2011)

football helmet impacts, with the hopes of ultimately identify minimum requirements for a safe football helmet, Reid reported that conditions that prevailed on the football field could not be simulated in the laboratory.[13]

Even with the multitude of pads and headgear already ubiquitous in tackle football by the 1950s, and the lack of standards or evaluation of such equipment, the decade saw calls for the addition of yet further protective gear. Concern about the frequency of tooth injuries in football led to the study, improvement and mandate of the mouth guard for use in tackle football. While evaluating the effectiveness of helmets in protecting brains was especially challenging, the risk of exposed teeth to injury was more visible and appeared more straightforward to address with equipment.

A survey of the 1950 college football season found an 18 percent incidence of teeth chipped or knocked out from playing football among players. The issue affected football players at all levels, from "kids in sand lots to 'pros,'" wrote the author in *Dental Survey*. But available mouthpieces were too clumsy and uncomfortable for widespread use, making "breathing difficult and talking virtually impossible."[14] As a result, dentists increasingly promoted the use of better mouth protection in tackle football and offered techniques for how to fabricate mouth protection. In 1954, pointing to several sources of data, including statistics he had collected in a Kansas high school, dentist Howard Dukes wrote that mouth pieces ought to become standard football equipment. He further highlighted a 1952 *Life* magazine article on college football that had featured photographs of toothless Notre Dame football players, claiming that the images of boys

[13] Stephen E. Reid, Joseph A. Tarkington, and Matthew Petrovick, "Radio Telemetry in a Study of Football Helmets." In: *Football Injuries: Papers Presented at a Workshop*, 83-93 (Washington DC, National Academies of Sciences, 1970). Marc Michaelson, "Should Your Son Play Football?" *Popular Mechanics*; September 1962, 94.

[14] Randy Vanet, "Gridiron Challenge," *Dental Survey* 27 (1951): 1258-1260.

rendered toothless meant that "parents have become much more reluctant to allow their boys to play football."[15] Coaches, too, supported the addition of mouth protectors, with one report in *Scholastic Coach* noting that they would reduce both injuries and the costs associated with treatment.[16]

In response to these studies and concerns, the National Alliance Football Committee, composed of the National Federation of State High School Athletic Associations, the National Junior College Athletic Association and the National Association of Intercollegiate Athletics, mandated the use of mouth guards for high school and junior college football beginning in the 1962 season. In 1964, the American Dental Association reported that since the face guard had become mandatory, injuries in and around the mouth had declined about 50 percent. Furthermore, 99 percent of 238 high school football players surveyed agreed that wearing mouth protectors was a good way to protect the teeth. Coaches, dentists, and players were thus all enthusiastic about this new piece of protective equipment.[17]

Such enthusiasm typically extended to the importance of football equipment more generally. In promoting their youth football leagues, organizers often emphasized the

[15] Duke wrote that 8 out of 35 of the football players at a Kansas High School he and colleagues had studied had received damaging blows to their teeth. Howard H. Dukes, "Latex Football Mouthpieces," *Journal of the American Dental Association* 49 (1954): 445-488; "The Fighting Irish Look Tough Again," *Life* 33:60; September 29, 1952. Michael Oriard has noted that Notre Dame officials were outraged by the implication of this *Life* feature that "the Irish were a bunch of roughnecks—with no mention of the fact that the featured players had insignificant roles on the team and were the only ones missing teeth. The university demanded, and received, an official apology two issues later, along with new photos of the players in coats and ties, their dental work firmly in place." Michael Oriard, *King Football: Sport and Spectacle in the Golden Age of Radio and Newsreels, Movies and Magazines, the Weekly and the Daily Press* (Chapel Hill, NC: The University of North Carolina Press, 2001), 216.

[16] "Mouth Protection for Football Players," *Scholastic Coach* (January 1953): 24.

[17] American Dental Association, "Evaluation of Mouth Protectors Used by High School Football Players," *Journal of the American Dental Association* 68 (1964): 430-442. For a review of the use of mouth guards in sports, see Joseph J. Knapik et al., "Mouthguards in Sport activities: History, Physical Properties and Injury Prevention Effectiveness," *Sports Medicine* 37;2 (2007):117–144.

standardized equipment that they offered—and the money they spent on it. For instance, a 1958 article on the Mar Vista Giants, a team sponsored by the Mar Vista Optimist Club and entered in the Pop Warner Midget Football League, noted that "the Optimists have spent $1250 on the club. They have helmets, face masks, shoulder pads, football pants, tennis shoes with soft rubber cleats, and purple and gold jerseys."[18] Indeed, the equipment itself was a major selling point for organized play as compared to "sandlot" games. Organizers claimed that the "bump-absorbant [*sic*] material" of football uniforms worked to prevent injuries.[19] A 1956 *New York Times* article on organized youth football set up the story by first describing children who played unsupervised in vacant lots: "Their equipment is meager at best. Few wear helmets or shoulder pads. Most of them don't know what a pair of hip guards look like—nor do they care." By contrast, youths playing on organized teams were outfitted with "the best football equipment available."[20]

"Something Depressing Has Happened To Football"

In 1961, an influential article published in *JAMA* prompted renewed medical and public attention to whether protective football helmets were in fact protecting athletes. Dr. Richard Schneider, a neuroscientist at the University of Michigan, and his colleagues examined serious and fatal football injuries in an article that sparked widespread concern about the design of football helmets. Reviewing the mechanisms involved in several severe football-related injuries and deaths, these researchers observed that the recently introduced, rigid, plastic faceguards could act as a lever causing injury. One detailed case report, for instance, recounted how an 18-

[18] "Mar Vista Giants Kick Off First Season in Midget Football League," *Los Angeles Times*; September 21, 1958.

[19] Clyde Snyder, "Hard but Safe-Hitting Midget Grid Lines Bring Cheers From Parents," *Los Angeles Times*; November 17, 1957.

[20] Howard M. Tuckner, "Small Fry Football League on Long Island Still Growing; Supervised Program Much Safer Than Sandlot Games," *New York Times*; November 18, 1956.

year old football player attempting to make a tackle had his faceguard struck by the knee of an opposing player. This forced his cervical spine into hyperextension, causing immediate and complete quadriplegia. Based on such cases, Dr. Schneider and his colleagues recommended several changes to the design of football helmets, including using a less rigid, more resilient material, and shortening the length of the face guard so that it would not protrude several inches from the face.[21] The authors nonetheless concluded that among the estimated 2.5 million individuals who played football in the United States each year, "there are only an infinitesimal number of fatal injuries."[22]

Despite this seemingly reassuring conclusion, the article prompted media coverage warning parents, particularly mothers, of the disturbing finding that helmets might not always represent a source of added safety. For instance, an article in the *Chicago Daily Tribune* presented the scenario of a young boy deriving a sense of pride and toughness from his helmet, while his concerned mother felt relief at the protection it provided. As the mother watches her son playing in "organized games that start as young as the sixth grade in some communities, she thinks: At least the helmet will protect him from hurting his face or head." Not so, the article frighteningly continued: instead the football helmet could prove to be an added danger and even serve as a vicious weapon on the field.[23] Meanwhile, Jim Murray, a sportswriter with the *Los Angeles Times,* observed that "something depressing has happened to Football, 1961 …. the sudden boom in head and neck injuries may speed a day when a team won't need a head coach so much as a head neurosurgeon nor a bench so much as an operating table." He even went so far

[21] Richard C. Schneider et al., "Serious and Fatal Football Injuries Involving the Head and Spinal Cord," *Journal of the American Medical Association* 177;6 (1961): 362-367.

[22] *Ibid*.

[23] Joan Beck, "New Football Helmets Dangerous for Boys," *Chicago Daily Tribune*; November 7, 1961.

as to warn his readers that "football is creeping up on reckless driving as an important cause of death in this country," an ominous observation based on a familiar comparison, as described in chapter two.[24]

Much of the debate centered on whether or not the recently introduced plastic helmets with faceguards increased or decreased the risks as compared to their older, leather counterparts. American sportswriter Bob Addie suggested that the new plastic helmets, when used as weapons by players, "may be more harmful than all the broken noses and facial injuries" that the face cages were intended to prevent. "It's a 15-yard penalty to grab a runner by the cage but the penalty may be small, indeed, when compared with the damage which could be caused by a head snapping back."[25]

Some coaches of youth and college teams argued that the transition from leather to plastic helmets had actually increased the risks. The athletic director of the University of Tennessee told the *New York Times* that the NCAA was concerned that an uptick in head and neck injuries might be due to modern equipment.[26] A football coach at the University of Denver agreed: "There is a real question whether plastic head guards are the cause of an increased number of accidents."[27] Coaches observed that the hard, unyielding plastic magnified the impact of the equipment when a player's head collided with part of another player's body. Another college football coach characterized the plastic helmets as "devastating weapons" and recommended a

[24] Jim Murray, "Head Coach or Surgeon?" *Los Angeles Times*; October 19, 1961.

[25] Bob Addie, "Equipment Advances: Bob Addie's Column," *Washington Post*; November 9, 1961.

[26] "Colleges Weigh Helmet Changes: Rise in Injuries Spurs Study of Current Football Gear," *New York Times*; October 29, 1961.

[27] "Colleges Weigh Helmet Changes: Rise in Injuries Spurs Study of Current Football Gear," *New York Times*; October 29, 1961.

return to their leather predecessors.[28] In 1962, Mal Stevens, orthopedic surgeon and former football player and coach, told the *Boston Globe* he thought plastic helmets ought to be outlawed.[29]

But in an article for the *Journal of School Health*, Clifford B. Fagan, the Executive Secretary of the National Federation of State High School Associations, disagreed with claims that returning to the use of leather helmets might reduce injury rates. "As a matter of fact, the consensus of experts is that the return to the use of the leather helmet would be taking a step backward. The plastic helmet is, at the present time, providing the best protection available."[30] Instead, he argued that contemporary helmets were such an improvement over their predecessors "that they cannot even be compared with those used even a decade ago."[31] Ultimately, some observers argued, protective equipment was not the primary culprit for the game's risks. Instead, coaches themselves needed to take more responsibility for limiting the brutality of football. Writing for the *Los Angeles Times* and referring to a major sporting goods company, sportswriter Jim Murray argued that "the character of the game itself is up to the coaches, not A.G. Spalding."[32]

"We've certainly got to find out whether any weakness in equipment or in training can be overcome so we can better protect these youngsters," insisted Jack Curtice, president of the

[28] "Football Armor," *San Francisco Chronicle*; October 28, 1961.

[29] Mal Stevens, "It's Basically a Safe Game: Mal Stevens Sees Night Football Boosting Injuries," *Boston Globe*; September 9, 1962.

[30] Clifford B. Fagan, "Misconceptions about Protective Equipment and Procedures in Athletics," *Journal of School Health* 34 (1964); 168-173.

[31] Clifford B. Fagan, "Misconceptions about Protective Equipment and Procedures in Athletics," *Journal of School Health* 34 (1964); 168-173.

[32] Jim Murray, "Head Coach or Surgeon?" *Los Angeles Times*; October 19, 1961.

American Football Coaches' Association. Curtice further speculated that the problem might be attributable to a lack of proper adult supervision. "We've been pushing sports competition for our youth so much maybe we haven't enough trained people to supervise it in our growing population."[33] The supervisory imperative continued to be evident in the recommendations of coaches to address equipment concerns related to football safety.

In the wake of the 1961 media outcry over injuries, in May 1962, the American Medical Association sponsored a national conference on head protection for athletes in Chicago to address some of the medical uncertainty surrounding helmets. All the symposium presentations focused on issues related to head protection in football.[34] Despite the focus on helmets as a key area for possible safety interventions, an introduction describing the problems posed by the conference topic sounded a skeptical note about the ultimate impact such protective equipment might have on injuries. The authors wrote that an examination of "the mechanics of the head impact and protective helmet problem discloses that we are severely limited in the protection which can be afforded even with ideal materials and design."[35]

Even amid fears that plastic helmets might in fact be dangerous to their users and other players who came into contact with them, eliminating helmets was not offered as a solution. Instead, helmets needed to be improved upon with different materials or a different design. Although not everybody agreed that plastic helmets were providing the best protection available, nearly all adults involved in football seemed to agree on the centrality of equipment to injury

[33] "Coach Group's Head Upset Over Prep Grid Fatalities," *Baltimore Sun*; October 13, 1961.

[34] American Medical Association Committee on the Medical Aspects of Sports, *Proceedings of the National Conference on Head Protection for Athletes* (Chicago, IL: American Medical Association, 1962).

[35] E.S. Gurdjian, H.R. Lissner, and L.M. Patrick, "Problems in Providing Protection for the Head and Neck in Sports," pgs. 1-14. American Medical Association Committee on the Medical Aspects of Sports. Proceedings of the National Conference on Head Protection for Athletes (Chicago, IL: American Medical Association, 1962).

prevention efforts. When injuries occurred, better equipment was often put forth as the necessary solution. For instance, parents, industries and service clubs donated $13,500 to get the Pop Warner Tackle Football League under way in Westchester and Playa del Rey, California. In 1957, the league's first year of existence, one boy suffered a broken collar bone. The league's vice president, Vern Perryman, attributed this major injury to poor equipment. He told the *Los Angeles Times* that in response to this injury, "we decided to buy the best equipment. This will eliminate the possibility of any boy getting hurt because of inferior equipment."[36] While doctors and engineers wondered how much protection even an ideal helmet might afford players, and sporting goods manufacturers warned that their products could not serve as a panacea against injuries, administrators of youth football emphasized that investing in available football gear would effectively eliminate the chance of any boy getting hurt as a result of equipment limitations.

[36] "Youth Will Pray, Then Play Ball," *Los Angeles Times*; October 26, 1958.

Figure 7. Two Young Boys Trying on Football Helmets and Pads, September 1965[37]

Collecting Data and the Problem of Knee Injuries

Research before the 1960s on youth football injuries had underscored serious concerns about the safety of the sport. Yet methods for data collection typically did not allow investigators to clearly calculate the *incidence* of football injuries, meaning the number of new injuries occurring over a defined period of time in a defined population. Instead, football injury reports generally involved simple retrospective counts of injuries, lacking the data about the total number of participants that would be necessary as a denominator in order to calculate the rate of injury. Researchers who did report an incidence of football injury had typically conducted their studies on a very small scale, such as school physicians who had documented the injuries they treated among students at the single high school they served.

[37] "Two young boys trying on football helmets and pads," *The Daily Reflector Image Collection*, September 3-4, 1965 (dates from negative sleeve). Accessed August 6, 2015 at https://digital.lib.ecu.edu/8462 Copyright held by Joyner Library. Permission to reuse this image is granted by Joyner Library for all non-commercial purposes.

By the 1960s, however, medical societies and athletic associations started to conduct larger scale prospective studies to calculate the incidence of injury among youth players. The emergence of sports medicine as specialized field helped enable this research. By 1966 the American Medical Association published its first standard nomenclature of athletic injuries, "so that meaningful records and statistics concerning sports injuries and their causes" could be obtained and maintained. Efforts to treat athletic injuries as worthy of systematic study and treatment, similar to other forms of injury and disease, helped promote epidemiological research on football injuries. Such research, in turn, would begin to evaluate the extent to which football equipment served as a protective or even a risk factor for injury.[38]

Some of the earliest large-scale football injury research happened at the state level, as state medical societies formed athletic subcommittees that provided greater institutional support for physicians to conduct research on football injuries. For example, the Athletic Medical Advisory Committee of the Academy of Medicine of Cincinnati, Ohio tracked football injuries among 2,846 students at 31 high schools from 1962-1964. The Ohio researchers shared their data with orthopedic doctor William Garrahan, who was conducting a similar study in Rhode Island. In 1960, Dr. Garrahan had started tracking injuries at 25 Rhode Island high schools, adding several schools over the years until 33 schools were included in his study by 1965. While the Ohio study had sent out questionnaires to schools, Dr. Garrahan instead relied on insurance claims forms to obtain injury data.[39]

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[38] Subcommittee on Classification of Sports Injuries, Committee on the Medical Aspects of Sports, *Standard Nomenclature of Athletic Injuries* (Chicago: American Medical Association, 1966), vii.

[39] Marvin McClelland, "High School Football Injuries," *Journal of the American Medical Association* 193;7 (1965): 158; William F. Garrahan, "The Incidence of High School Football Injuries," *The Rhode Island Medical Journal* 50; 12 (1967): 833-835.

Dr. Garrahan reported that approximately 1 out of 5 high school football players sustained some kind of injury, a very similar result to the Ohio study. He found that dental injuries had decreased after mouth guards had become mandatory in 1962, suggesting the effectiveness of the equipment. On the other hand, other types of injuries remained relatively stable. Dr. Garrahan further reported that only about 1 out of 13 players had sustained a "potentially serious" injury, which he defined as "injuries to vital parts of the body, but not necessarily serious because of the force involved." Concussion, for example, did not constitute a serious injury according to this definition. Dr. Garrahan observed that the incidence of concussion remained high throughout the study, but that "there were no serious head injuries during the six year period." Despite this relative lack of clarity in defining categories of injury and other limitations to the research, the studies in Ohio and Rhode Island nonetheless represented some of the first attempts to document the incidence and nature of high school football periods among a large group of students in a prospective, multiyear study.[40]

In addition to the efforts of medical societies, state athletic organizations also increasingly sought to document the incidence of football injuries in order to improve player safety. Research sponsored by the New York State Public High School Athletic Association (NYSPHSAA) in the 1960s illustrates how one such association worked to collect data to improve safety efforts in their athletic programs. The NYSPHSAA's publications, as well as broader discussion at medical conferences at which researchers shared this data, indicate how the researchers confronted and addressed the challenges of gathering and interpreting football injury data. Importantly, the NYSPHSAA's research suggested the limitations of protective equipment

[40] *Ibid*. The rate of injury found in the Ohio study was 19.5% (550 injuries among 2,826 players) as compared to 19.9% in the Rhode Island study (2191 injuries among 11,020 players).

in preventing football knee and ankle injuries, which influenced the safety recommendations offered by the athletic association's researchers.

In August 1963, the State Football Committee of the NYSPHSAA began a voluntary, experimental pre-season football conditioning program. The program was intended to minimize injuries and improve athlete fitness, and was open to any school interested in participating. In order to evaluate the effectiveness of this program, the NYSPHSAA allocated funds for tracking injuries. In conjunction with this effort, the association initiated a series of studies intended to identify the major causes of injury among interscholastic youth football players in New York State. In May 1966, a report evaluating the three year experimental program indicated a reduction in football injuries.[41]

In addition to continuing this successful conditioning program, in 1967 the NYSPHSAA leadership decided to undertake another study of head, thigh, knee and ankle injuries, for which they received a grant from the State Education Department. Ultimately the NYSPHSAA sponsored two studies, one large and one small, examining whether equipment modifications could prevent injuries to players' legs. The smaller study assessed whether various shoe and cleat combinations would help prevent knee and ankle injuries among 1,235 high school varsity level football players at 44 schools in 11 New York State counties. Orthopedic surgeon Murle Laurens Rowe of the University of Rochester led this project, hypothesizing that football cleats might contribute to injuries that occurred when players cut or pivoted on their feet. Using multiple combinations of shoe and cleat types, Dr. Rowe sought to evaluate whether instead shorter

[41] Robert Lynn Cox, *The New York State Public High School Athletic Association in Historical Perspective, 1922 to 1972* (D.P.E. Thesis, Springfield College, 1973); William T. Callahan, Francis J. Crowley, J. Kenneth Hafner, *A Statewide Study Designed to Determine Methods of Reducing Injury in Interscholastic Football Competition by Equipment Modification* (Albany, NY: New York State Public High School Athletic Association, 1969).

cleats, or alternatively adding a plastic disc heel to ordinary street shoes, were associated with fewer injuries as compared to the conventionally cleated football shoe. In 1969 he would report his results at several New York State based conferences and journals, concluding that the low-cut shoe with the disc heel was the safest shoe-cleat equipment design available based on this study.[42]

In addition to Rowe's "numerically limited," smaller scale study, in 1967-1968 the NYSPHSAA also undertook a much larger a statewide study with the support of the New York State Education Department. This study included over 17,000 varsity high school football players, representing over 90% of such players in the state. The authors asserted that the program was "unparalleled in scope" and "the first statewide survey in the nation designed to catalogue such injuries, in a standardized and medically acceptable manner, by type and severity." In 1967, the first year of the study, the researchers surveyed injuries to lower extremities sustained by these high school football athletes. Yet they largely failed to control for key variables related to injuries, such as equipment worn and the number of games played. Consequently, the authors could not draw many conclusions from the data they had collected about whether different types of equipment were associated with injuries. They reported, however, that they learned much "about the basic problems of data handling and interpretation" that would inform the study design the following year.[43]

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[42] Robert Lynn Cox, *The New York State Public High School Athletic Association in Historical Perspective;* William T. Callahan et al., *A Statewide Study*; M. Laurens Rowe, "1968 Varsity Football Knee and Ankle Study," in *Second Annual Symposium on the Medical Aspects of Sports* (New York, New York, February 8, 1969): 57-63; Murle Laurens Rowe, "Varsity Football Knee and Ankle Injury," *New York State Journal of Medicine* 69;23 (1969):3000-3.

[43] William T. Callahan et al., *A Statewide Study*, 1.

In 1968, based on their experience the previous year, the NYSPHSAA researchers adjusted their study design to include data on several experimental variables, such as player's conditioning, experience in sports, and type and extent of injury. Physician members of the Committee on Medical Aspects of Sports of the New York State Medical Society developed a system of injury classification, including a four-point scale to assess seriousness of injury. They also incorporated several checks of the reliability of the data, such as checking 10% of injury notations against school health and/or athletic department records.

Based on the experimental data collected in 1968, the researchers reported that several shoe/cleat combinations, such as a low shoe with a disc heel, were associated with fewer injuries than expected at a level of statistical significance. The clearest finding, however, was that players who had sustained a previous knee injury were far more likely to be reinjured seriously, as compared to those players without a previous injury. Their first and primary recommendation, then, was that players with a previous knee injury should undergo a planned program of rehabilitation before being permitted to return to football. Furthermore, physicians should thoroughly examine such players before each football season began to evaluate the athletes' fitness to participate. The NYSPHSAA researchers further suggested that football players ideally be outfitted with low shoes and some form of disc or flat heel, or short cleats.

Yet even with such modifications, the NYSPHSAA's final report emphasized that the majority of knee and ankle injuries would not be prevented. Out of the 328 total serious knee injuries recorded, their estimates suggested that only some 10-20 cases would be reduced even if all players were outfitted with the ideal shoes. And even if all players with a previous knee injury were completely rehabilitated prior to returning to play, the total number of knee injuries would

be reduced by only 40-50 cases. Based on these numbers, the report's recommendations section sounded a highly cautious note:

> This is not to reduce the urgency of outfitting youngsters with the safest equipment combinations or of improving the rehabilitation and screening processes. But it does point out that those seeking to improve the safety of the game must turn to both factors related to the condition of the organism [athlete] and factors related to the nature and conduct of the sport. Further research in the area of shoe equipment may well turn out to be a somewhat unrewarding process.[44]

Instead of focusing on protective equipment, the study results suggested that the nature and conduct of the sport should be examined, especially in order to eliminate dangerous situations caused by such tactics as "spearing" and players piling on each other. The NYSPHSAA researchers concluded that various rule changes, such as restricting players from blocking one another above the waist, needed to be attempted and evaluated, "regardless of whether they change the 'traditional' nature of the game."[45]

In addition to supporting research on injuries among youth football players, the NYSPHSAA also sponsored conferences in collaboration with doctors and educators to further examine the issue of player safety. In 1968, the NYSPHSAA co-sponsored its first symposium on the medical aspects of sports along with the Medical Society of the State of New York and the Health, Physical Education and Recreation Association. At the symposium, researchers described the preliminary results of some of the youth sports injury data that had been collected over the previous 5 years in New York State. Every year, reported Dr. Rowe, about one third of 18,000 New York state high school football players sustained a reportable injury. Of these injuries, about one third affected players' legs (16% were knee injuries, 13% ankle injuries, and

[44] William T. Callahan et al., *A Statewide Study*, 43.

[45] *Ibid.*, 43.

4% affected other parts of the leg). Dr. Rowe asserted that both the preliminary data that had been gathered and his experience made clear that preventing knee and ankle injuries "in a running, heavy contact sport like football" would be very difficult. He regretted that complete data were not yet available from either his smaller scale study or the larger study of knee and ankle injuries supported by the NYSPHSAA. Yet Dr. Rowe emphasized his appreciation for the ability to collect such data, noting that researchers could now benefit from "a marvelous instrument in the continuing body of statistics contributed by the high school coaches of New York State to direct our attention to problem areas."[46]

In his own address at the symposium, Dr. Anthony J. Pisani, an orthopedic surgeon who served as team physician for the New York Giants, shared Dr. Rowe's concern about the vulnerability of players' knees. "It is my opinion that mechanically the human knee was not meant for football. . . . cleats or type [*sic*] of footgear variation certainly are a boon to the manufacturers or the sporting goods houses, but play little or no part in the prevention of knee injuries." If equipment was not a promising solution to preventing knee injuries, Dr. Pisani instead suggested that athletes could best protect themselves with their style of play. He cited advice from coaches and athletes that football players should keep their legs moving at all times, even if they were not directly involved in action on the field. In this way, even if they received a blow to their legs, it would be "a glancing type of force rather than a square impact." He added that college football coach Beattie Feathers had claimed that thanks to this approach, none of his North Carolina State players had sustained knee injuries requiring surgery. Dr. Pisani concluded:

[46] M. Laurens Rowe, "The Cleatless Heel," in *Medical Aspects of Sports: A Symposium Sponsored by the Medical Society of the State of New York on the Medical Aspects of Sports* (New York, New York, February 10, 1968): 4-6.

"Constant movement of the legs during the actual play sets up a moving target that affords the best chance of survival to play another day."[47]

Both Dr. Rowe and Dr. Pisani communicated their concerns about the difficulty of preventing football injuries to the popular press. They were both quoted as sharing the view that "the knee is not meant for football" in a 1968 *Chicago Tribune* article on injuries in professional football. Dr. Rowe supported better officiating and leg conditioning, but concluded "that there is no real solution to the knee injury problem."[48] Their skepticism of equipment as a preventative strategy was similar to the conclusion of the 1969 NYSPHSAA report, which had found that focusing on shoes and cleats did not seem a promising route for preventing knee and ankle injuries.

If better shoes or cleats were not the solution to leg injuries, two alternative options seemed to present themselves: recommending particular football playing techniques to athletes that might best protect them (and thereby making players responsible for their own safety), or altering some of the rules of football. Dr. Pisani's advice that players constantly move their legs at all times during football matches fell into the former category. Meanwhile, the 1969 report NYSPHSAA advised the latter strategy based on the large study of knee and ankle injuries among New York State's high school football players. The association's researchers

[47] Anthony J. Pisani, "Anatomy with Reference to the Mechanics of Injury," *Medical Aspects of Sports* in *Medical Aspects of Sports: A Symposium Sponsored by the Medical Society of the State of New York on the Medical Aspects of Sports* (New York, New York, February 10, 1968): 1-3. Dr. Pisani would retire from working for the NFL one month before being named in a 40-count indictment issued against two bookmakers involved in a $26 million/year gambling operation. While Dr. Pisani would never be charged, his involvement led a *New York Times* writer to reflect that team physicians, "like players and fans, are only human. They bear the same scars and frailties that show up on Sunday afternoon when a cornerback feigns a limp to the bench after having been beaten by a wide receiver for the game-winning touchdown." Neil Amdur, "Once More, Doc, With Feeling," *New York Times*; August 22, 1974; "Giants' Ex-Doctor Tied To Bookies in a Conspiracy," *New York Times*; August 21, 1974.

[48] Arturo Gonzalez, "The Pain Behind the Paycheck in Pro Football," *Chicago Tribune*; June 9, 1968.

recommended revising even the most seemingly "traditional" rules of football, and evaluating whether such changes could eliminate some of the most dangerous situations that occurred in the sport. None of these authorities suggested that tackling should be eliminated entirely or football banned outright. While no "real solution" was apparent to the problem of knee injuries, physicians and researchers nonetheless sought to identify how the hazards of football might best be controlled.

Helmet Design Research

Based on research examining youth football-related leg injuries in the late 1960s, protective equipment did not appear to be the most promising option for improving player safety. In addition, the fundamental effectiveness of football helmets as a strategy for preventing injuries continued to be a source of uncertainty throughout the decade. In 1969, for instance, researcher and Northwestern football team physician Dr. Stephen E. Reid argued that doing away with football helmets altogether would reduce head injuries because without helmets, players couldn't use their heads as weapons. As a result, he believed, eliminating the equipment would result in less head contact in the game. Yet Dr. Reid acknowledged that such a change would interfere with the techniques of the sport as it was then played.[49]

Despite these uncertainties over the benefits of football equipment, an increasing emphasis on improving equipment and equipment standards occurred during this period, most particularly in the context of football helmets. Suggestions to eliminate football helmets or otherwise "interfere" with the sport as played were largely sidelined in favor of improving headgear. As discussed in chapter two, both doctors and coaches had long called for

[49] "Use of Helmets Rapped By Doctor," *Los Angeles Times*; January 9, 1969.

improvement to football helmets. By the early 1960s, several groups of researchers were testing various helmet designs and confronting the practical and technical challenges that modifying football helmet design entailed.

Some of the impetus for initiating research on improving football helmets in the 1960s had its origins in automobile safety. After the 1956 death of Pete "William" Snell from a collision in an amateur auto racing contest in California, several physicians who were also fellow auto racers sought to improve head protection in his honor. The 1957 establishment of the Snell Memorial Foundation and the creation of the foundation's helmet test facility at the University of California's Davis campus provided the opportunity not only to study racing crash helmets, but also to examine football helmets. With this facility available as a resource, Dr. George Snively, a physician at Sacramento County Hospital, collaborated with two researchers from UC Davis's physical education department who were concerned about head injuries among the players on the school's football squad. With funding from the National Institutes of Health, they obtained eleven different models of helmets from the open market. They then compared these against a prototype helmet with a fiberglass outer shell that covered a foamed, non-resilient plastic lining. Finding that the prototype helmets with foamed plastic inner liners performed better under high impacts in the lab, they provided several of these prototype helmets to UC Davis football players for use in field trials during football practices and games.[50]

Orthopedic surgeon and team physician Harold Fenner was similarly motivated by Snell's death to improve head protection. Dr. Fenner, who had raced cars professionally in the

[50] George G. Snively, Charles Kovacic, and C.O. Chichester, "Design of Football Helmets," *The Research Quarterly* 32;2 (1961): 221-228; Edward B. Becker, "Helmet Development and Standards," in *Frontiers in Head and Neck Trauma: Clinical and Biomedical*, ed. Narayan Yoganandan et al. (Amsterdam: IOS Press, 1998): 113-130, Edward B. Becker, "The Snell Memorial Foundation, Past and Present," *Motorcycle Safety Foundation*, February 7, 2001, accessed September 9, 2015 at http://www.msf-usa.org/downloads/imsc2001/Becker.pdf.

1950s and would later serve as president of the Board of Directors of the Snell Foundation, began to study football helmet safety in his own practice. He observed deficiencies in the football helmets used by student athletes at the local Hobbs High School football team in Hobbs, New Mexico. Due to a weakness of the then-available plastic shell helmet, he found that an object could make solid contact with the shell against the wearer's head, particularly below the headband level of the helmet. As a result of this defect, Dr. Fenner argued that a much more rigid shell, such as fiberglass, was necessary. In March 1960, Dr. Fenner obtained a prototype fiberglass helmet from Dr. Snively, made modifications to the equipment in consultation with the Hobbs High School coaching staff, and began to use this redesigned headgear among the high schooler players at Hobbs. Despite initial concerns that the inner liner would need frequent replacement due to damage, Dr. Fenner stated that after four seasons of use at Hobbs High School, it had not been necessary to replace any of the liners.[51]

Physicians were thus experimenting with different helmet designs among students playing on the school teams with which they were affiliated at the high school and college level. Such unsupervised experimental research took place in an era before the establishment of Institutional Review Boards to review the ethics of research among youth. At the time, however, these physicians felt they were meeting an urgent need of developing more effective equipment for their players. They hoped their innovations might provide a model for the type of equipment all football players ought to wear, and they urged the need for standardization. "It is apparent that the time to establish minimum standards for football helmets is not only here but has passed," insisted Dr. Fenner after documenting the "alarming variance in the performance of energy

[51] Harold A. Fenner, Jr., "Football Injuries and Helmet Design," *GP* 30;4 (1964): 106-113; "Fenner: Doctor Helped Develop Safer Football Helmets," *Albuquerque Journal*; May 4, 2011, accessed September 9, 2015 at http://www.abqjournal.com/obits/profiles/042133249981obitsprofiles05-04-11.htm

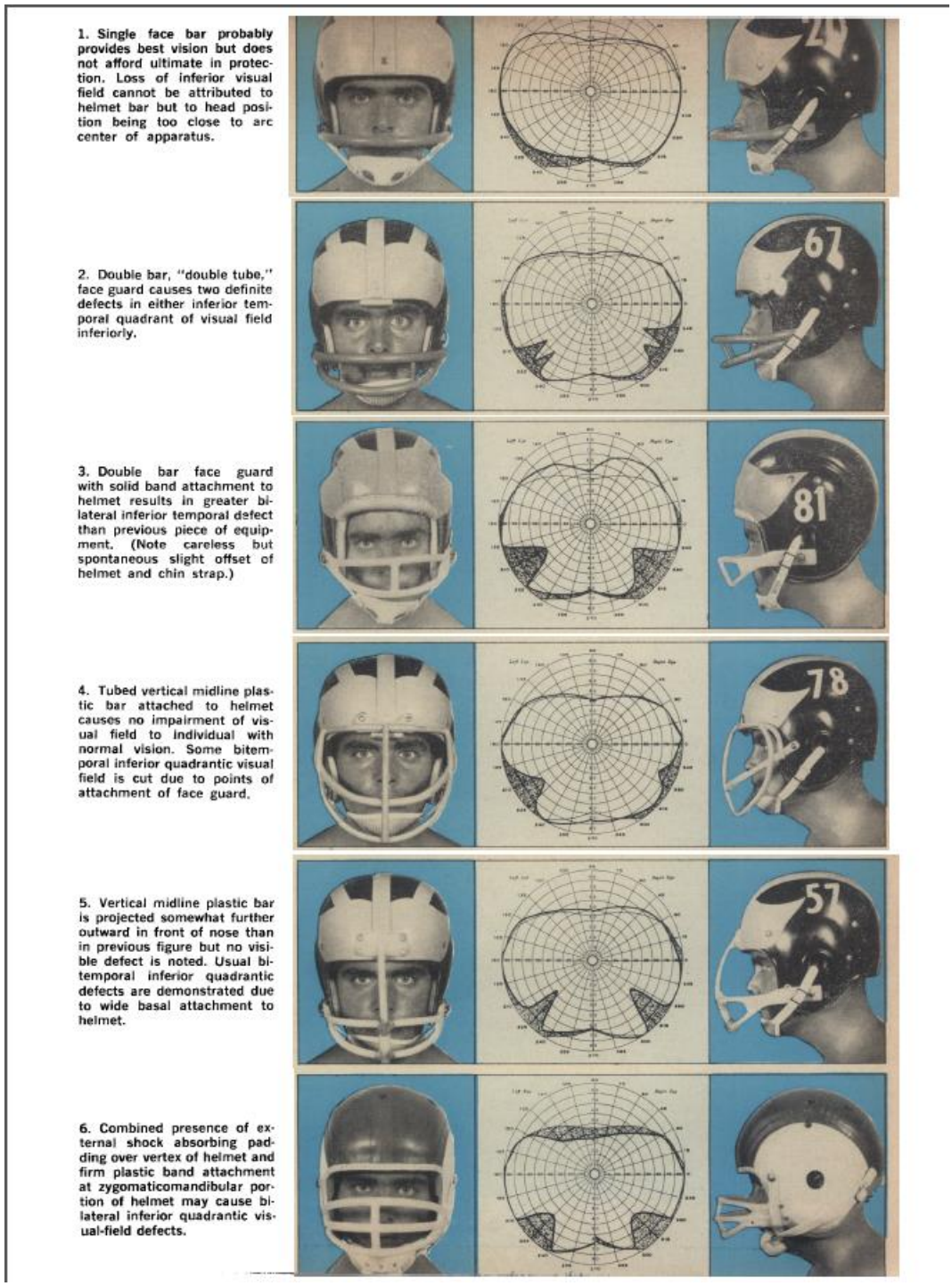
absorption among different brands of helmets." Only 3 of the 16 "major brands" of football helmets on the market provided adequate protection, he warned. Dr. Fenner concluded his 1964 report by recommending banning the sale of plastic helmets to small children. Such helmets were then used not only in football but also in soapbox derbies, go-cart racing and baseball.[52]

In additional to Dr. Snively and Dr. Fenner's work to identify more effective materials for use in the construction of football helmets, the overall design of the helmet itself was also a source of contention. In particular, the recently added faceguard to maximize facial protection could interfere with players' vision, a problem that was the focus of 1965 study conducted by neuroscientist Richard Schneider and ophthalmologist Bartley Antine. In comparing several different helmet designs, the physicians found that face guard innovations with the potential to enhance the overall protection afforded by football helmets would constrain players' visual fields. In grappling with this trade-off, the authors stated that even a transient limitation on players' vision might not only hamper their success on the field but could in turn increase their risk of injuries. While they acknowledged that no design was without its limitations, the authors ultimately recommended face guards with "J shaped" lower bars as the most promising design option to protect players' faces without overly constraining their vision (see the fourth design option in figure 8).[53]

[52] Harold A. Fenner, Jr., "Football Injuries and Helmet Design," *GP* 30;4 (1964): 106-113;

[53] Richard C. Schneider and Bartley E. Antine, "Visual-Field Impairment Related to Football Headgear and Face Guards," *JAMA* 17;192 (1965):616-618.

Figure 8. Visual-Field Impairment Related to Football Headgear and Face Guards[54]



[54] Richard C. Schneider and Bartley E. Antine. "Visual-Field Impairment Related to Football Headgear and Face Guards," *JAMA* 17;192 (1965):616-8. Reprinted with permission. License Number: 3371410369019.

To address some of the difficulties involved in improving protective equipment, in 1968 several doctors, academics, sports administrators and sporting goods manufacturers organized a national conference on protective equipment in sports. The members of the planning committee included Creighton J. Hale, then the director of research and vice president of Little League Baseball; as well team physicians; professors of physical education, safety education, and engineering; and the vice president of research and engineering of sporting goods manufacturer Riddell.[55]

The concerns that prompted the organization of this 1968 conference included identifying where protective equipment would be of value in sports, how to improve currently available equipment, determining which newly available materials from the decade's "scientific explosion" might be incorporated into protective equipment, and addressing the problem of setting standards for evaluating equipment. The introduction to the conference proceedings also highlighted an overarching need for a more systematic and comprehensive approach to developing protective equipment:

> Although manufacturers of sports protective equipment are continually attempting to improve the quality of those products which are now available, their efforts have been guided more by individual suggestions from coaches, athletes and other interested persons and by deficiencies or failures of existing items rather than by a planned approach to the problems of protection in sports as a whole or even individual sports.[56]

Athletic team physician Dr. Allan Ryan contributed a conference session examining the fundamental question of what injuries might be preventable with the use of protective equipment. He acknowledged that there existed significant skepticism that equipment was effective in

[55] "Conference Planning Committee," *National Conference on Protective Equipment in Sports* (Madison, WI: University of Wisconsin, June 14–16, 1968): ii.

[56] "Introduction," *National Conference on Protective Equipment in Sports* (Madison, WI: University of Wisconsin, June 14–16, 1968): 1.

protecting athletes, particularly in contact or collision sports. "Studies of the forces involved when today's fast and heavy athletes collide have raised serious doubts in the minds of some as to whether any type of protective equipment we can provide within the limits of practicability can decelerate these forces rapidly enough to prevent injury." Furthermore, he continued, if equipment was effective, this might cause athletes to act in "careless disregard of injury," taking risks that they might not have taken otherwise. Even worse, he added, they might use their equipment to deliberately injure another player. In making this point, Dr. Ryan was likely referring to the ongoing issue of "spearing" in tackle football.[57]

Despite these caveats, the conference attendees did not propose removing any particular piece of equipment from any sport, but rather focused their recommendations on how to improve existing equipment. They called for establishing uniform injury reporting techniques and the use of standard nomenclature for athletic injuries in order to improve the accuracy of injury data. They further recommended the formation of a "Committee for Protective Equipment in Sports" that would include representatives from a wide range of fields, including physical education, sports supervision, recreation, medicine, safety education, engineering and design, sporting goods manufacturers, the suppliers of basic materials for manufacturers, and others. Such a committee would encompass protective equipment in a variety of sports: football, ice hockey, baseball, wrestling, basketball, soccer, lacrosse, and rugby. While not as far-ranging as the committee envisioned in these recommendations, the forthcoming establishment of the American Society for Testing and Materials (ASTM)'s Committee F-8 on sports equipment and the

[57] Allan J. Ryan, "What Injuries in Sports Can Be Prevented by the Use of Protective Equipment," *National Conference on Protective Equipment in Sports* (Madison, WI: University of Wisconsin, June 14–16, 1968): 4-16.

National Operating Committee on Standards for Athletic Equipment (NOCSAE) in 1970 would in many ways resemble this description.[58]

Consumer Product Safety

By the late 1960s and early 1970s researchers were increasingly applying epidemiological methods to the study of athletic injuries,[59] but few studies evaluated the effectiveness of protective equipment. As one researcher would complain, there existed a "paucity of published information" on the effectiveness of football equipment:

> The design and construction of protective equipment, particularly for American contact football but for other sports too, has unfortunately followed a general pattern of consumer suggestion, generational development of prototype devices, and, what for the most part appears to be outright "divine guidance" in lieu of controlled field testing.[60]

Yet a shift from "divine guidance" to controlled testing of athletic equipment was beginning to occur during this period. Two key developments contributed to an increasing emphasis on the systematic study and standardization of football equipment. First, changes in tort law meant that a new "strict liability" standard was increasingly applied in legal cases involving defective products, including lawsuits related to sporting goods. Previously in American law, plaintiffs needed to be in a contract relationship (in "privity") with defendants as a necessary condition of liability. But a number of court cases chipped away at this requirement throughout the 1940s and 1950s.

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[58] "Recommendations of the Conference," *National Conference on Protective Equipment in Sports* (Madison, WI: University of Wisconsin, June 14–16, 1968): 4-16.

[59] James M. Robey, Carl S. Blythe, and Frederick O. Mueller, "Athletic Injuries: Application of Epidemiologic Methods," *JAMA* 217;2 (1971): 184-185.

[60] James M. Robey, "Contribution of Design and Construction of Football Helmets to the Occurrence of Injuries," *Medicine and Science in Sports* 4;3 (1972): 170-174.

Then, in 1963 the Supreme Court of California held in *Greenman v. Yuba Power Products, Inc.* that manufacturers would face strict liability for injuries to human beings caused by defects of their products. This new standard of strict liability meant that plaintiffs would not need to prove negligence or intent to cause injury, only that the product made by the manufacturer had caused a person harm. Furthermore, the weakening of the privity requirement meant that courts could find manufacturers legally responsible for the harms caused by defective athletic equipment beyond the individuals who had purchased the product. Courts would go on to recognize three general types of manufacturer conduct that might make a product unsafe: defective design of product, defective manufacture of product, and inadequate marketing or failure to warn.[61]

Leading tort law scholar William Prosser would describe the fall of the privity of contract "citadel" as "the most rapid and altogether spectacular overturn of an established rule in the entire history of the law of torts." Strict products liability quickly swept across the United States. One of the seminal events that highlights the national shift to strict liability occurred in 1964, when the American Law Institute approved the *Restatement (Second) of Torts* § 402, which was published in 1965. In addition, as Kenneth Abraham has argued, by the 1960s and 1970s the notion that the threat of increased liability could help prevent accidents, and "thereby reduce the amount of liability that actually needed to be imposed, became a standard feature of tort theory." The ways sporting goods manufacturers responded to these changes in products liability will be discussed in further detail in chapter four. Nonetheless, the shift toward strict liability motivated

[61] William L. Prosser, "The Fall of the Citadel (Strict Liability to the Consumer)," *Minnesota Law Review* 50 (1966): 791-848; Aaron Gershonowitz, "The Strict Liability Duty to Warn," *Washington and Lee Law Review* 44;1 (1987): 71-107; Kenneth S. Abraham, *The Liability Century: Insurance and Tort Law from the Progressive Era to 9/11* (Cambridge, MA: Harvard University Press, 2008); Kyle Graham, "Strict Products Liability at 50: Four Histories," *Marquette Law Review* 98;2 (2014): 555-624.

manufacturers to support equipment standards and certification that would help them reduce their liability for harm caused by defective products.[62]

Secondly, greater attention to the evaluation and standardization of protective equipment in sports occurred in the context of broader concerns about the safety of consumer products. In particular, concerns about motor vehicle safety ultimately inspired efforts to establish a federal consumer product safety agency. The hearings leading up to the establishment of this agency would highlight the risks of a number of consumer products, including football helmets.

One of the most prominent developments in injury prevention in the 1960s was more active federal involvement in automobile and highway safety. Following the 1965 publication of Ralph Nader's landmark book *Unsafe at Any Speed*, in 1966 U.S. President Lyndon Johnson signed the National Traffic and Motor Vehicle Safety Act. This act created the National Highway Safety Bureau, whose first director was Dr. William Haddon, Jr., a pioneer in the field of injury prevention. The bureau, which would later become the National Highway Traffic Safety Administration (NHTSA), adopted an epidemiological approach to preventing highway injuries. Rather than focusing on modifying driver behavior, regulators were authorized to set minimum safety standards for automobiles in the United States.[63]

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[62] William L. Prosser, "The Fall of the Citadel," 793-794; Kenneth S. Abraham, *The Liability Century*, 146. On the limits of such legal changes and regulatory reform to address the fundamental reality that the physical risks of defective products first materialize "on the bodies and lives of individuals," see Barbara Young Welke, "The Cowboy Suit Tragedy: Spreading Risk, Owning Hazard in the Modern America Consumer Economy," *Journal of American History* 101 (2014): 97-121.

[63] Amy Beth Gangloff, "Medicalizing the Automobile: Public Health, Safety, and American Culture, 1920-1967," PhD Dissertation, State University of New York at Stony Brook, 2006. Accessed September 2, 2015 at http://ezproxy.cul.columbia.edu/login?url=http://search.proquest.com/docview/304954653?accountid=10226; Julian A. Waller, "Reflections on a Half Century of Injury Control," *American Journal of Public Health* 84:4 (2004): 664–670; Jerry L. Mashaw and David L. Harfst, "Regulation and Legal Culture: The Case of Motor Vehicle Safety," *Yale Journal on Regulation* 4 (1987): 257-316.

Michael Pertschuk, then consumer counsel for the U.S. Senate's Commerce Committee, would later recall how this federal legislation on automobile safety influenced efforts to protect American consumers from the dangers of consumer products more generally. After the passage of the National Traffic and Motor Vehicle Safety Act, U.S. Senator Warren Magnuson and his staff began exploring "what seemed to be the next logical step, omnibus product-safety legislation covering other potentially hazardous manufactured products." They decided that an independent national product safety commission was not yet politically ripe, due to a lack of supporting data and an absence of public mobilization around consumer product safety. Instead, by introducing legislation to create a temporary National Commission on Product Safety (NCPS) to study the issue, the senator and his staff hoped to focus public attention on product safety and to develop a record of evidence on the hazards of consumer products. In this way, the commission was intended to foster the familiarity and legitimacy that would ultimately be necessary for the formation of a new regulatory commission.[64]

Following the formation of the National Commission, the U.S. House of Representatives held hearings that addressed the dangers of a wide variety of consumer products. Among the products discussed, football helmets featured prominently. At hearings held in February 1969, the testimony of several lawyers, members of the public, and a professional football player focused on youth football injuries and the effectiveness of youth helmets. Examining the

[64] Pertschuk further noted, "It was our expectation, of course, that the commission's deliberations would lead inexorably to a legislative proposal for the creation of a permanent consumer product safety commission, with full authority to set product safety standards and to order recalls. . . . Since Morton Mintz sought, and was assigned by the *Washington Post*, to follow the commission from city to city, the hearings and revelations were assured not only of intense regional coverage and interest, but of a national (i.e., Washington, D.C.) audience as well." Michael Pertschuk, *Revolt Against Regulation: The Rise and Pause of the Consumer Movement* (Berkeley, CA: University of California Press, 1982), 41-43. Senator Magnuson, himself a cigar smoker, was also notably involved in efforts to stop tobacco companies from marketing their products to children, once saying "it's damned hard to kick the cigarette habit. . . . I don't like to see young people fooled into the habit [of cigarettes]." See Shelby Scates, *Warren G. Magnuson and the Shaping of Twentieth-Century America* (Seattle: University of Washington Press, 1997), 222.

varieties of testimony presented at these hearings clarifies how different interested groups framed the issue of protective equipment and football safety, and why football helmets remained on the commission's agenda as a dangerous product of public concern.

The testimony related to football helmets began with several personal stories from members of the public. Larry Csonka, a fullback with the Miami Dolphins, testified that even with his experience as a professional football player, he would not be able to determine which of two helmets in a sporting goods store would provide the greatest degree of safety. While Csonka believed that safe helmets were available, a consumer's ability to determine which helmets were and were not safe was the essential missing factor, particularly at the younger levels of play. He emphasized that the key issue was the protection of youth football players, such as his own two sons.[65]

Next, two parents, Mr. and Mrs. McLelland, each testified about a catastrophic injury their eighth grade son had suffered despite wearing a helmet while playing football. Following a collision with another player during a blocking exercise overseen by two coaches, their son Michael collapsed, went into a coma, and ultimately required five brain surgeries. At age 20, the young man was partially paralyzed, had a speech disorder, and was unable to care for himself. Mr. McLelland indicated that he and other parents had all been aware of and would be willing to accept injuries such as broken arms and broken legs. But based on his son's experience, he

[65] "Statement of Larry Csonka," *National Commission on Product Safety Hearings, Washington, Jan-Feb 1969,* (New York, NY: Law-Arts Publishers, Inc.: 1970): 391-394.

argued that parents around the country needed to consider whether they would be willing to consent to brain injuries of this nature. [66]

Lawyer Harry M. Philo, whom the American Association for Justice would later describe as "one of the giants of plaintiff trial law," proceeded to testify that helmet makers needed to be held liable for the injuries that football players sustained while using their products. Philo blasted helmet manufacturers for their role in serious and fatal football head injuries across the United States. He dubbed the injury toll from tackle football "a national disgrace that has been hidden from the public." Makers of football helmets, he claimed, had failed to heed calls from doctors and coaches for the development of adequate standards of protection. Pointing to the research conducted by Dr. Snively and Dr. Fenner, Philo argued that helmets with a fiberglass shell offered greater protection; he claimed the main reason manufacturers had not switched to fiberglass shell helmets was that plastic helmets could be made so cheaply.[67]

In addition to their failures to adopt more effective materials, Philo noted that never once had helmet manufacturers tested the safety of the 125,000 helmets they sold each year. Instead, he contended, engineering executives of the helmet manufacturers had "pleaded ignorance of the deficiencies in their helmets" and "put their heads in the sand." As an example of the data the manufacturers were ignoring, Philo cited a 1967 study on the incidence of concussions among football players at 63 colleges. He warned that "the new knowledge of bizarre personality

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[66] "Statement of Thomas R. McClelland" and "Statement of Mrs. Dorothy McClelland," *National Commission on Product Safety Hearings, Washington, Jan-Feb 1969,* (New York, NY: Law-Arts Publishers, Inc.: 1970): 394-396.

[67] "Statement of Mr. Harry Philo," *National Commission on Product Safety Hearings, Washington, Jan-Feb 1969,* (New York, NY: Law-Arts Publishers, Inc.: 1970): 396-400; American Association for Justice, "Remembering Harry M. Philo, 1924-2012," *American Association for Justice*. Accessed September 3, 2015 at https://www.justice.org/membership/memoriam/remembering-harry-m-philo-1924-2012

changes caused by microscopic brain damage from subfatal acceleration injuries should cause society great concern over the inadequacy of football head protection."[68]

David Rust, an attorney representing Rawlings, a major sporting goods manufacturer based in St. Louis, Missouri, disputed Philo's claims at the hearing. Rust asserted that Philo was exaggerating the numbers of injuries and deaths, that the statistics had not been hidden, and that the industry was working to understand what impacts helmets could absorb. Not only did helmet manufacturers face the challenge of how to improve helmet design, Rust added, but they also had to grapple with the trouble of players who preferred "a light helmet because they have a severe sweat problem." Rust's argument that athletes' sweat represented a significant hurdle to improving protective equipment did not appear to impress the commission; Commissioner Emory Crofoot drily retorted, "Well, we can put a man on the moon, it would seem to me that we can overcome this problem."[69]

As an industry lawyer, Rust sought to portray football injuries as unpredictable and random occurrences. Even with helmets that could ultimately protect users from any head injury, he noted that manufacturers could not control for all circumstances: "we might also end up ruining the few boys who get socked with that helmet." He cited documents from the 1968 Conference on Protective Equipment in Sports to demonstrate the difficulty of protecting against injury in football, and the progress manufacturers had nonetheless made in improving the equipment. He portrayed sporting goods manufacturers as providing the best possible helmets

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[68] "Statement of Mr. Harry Philo," *National Commission on Product Safety Hearings, 1969*; Morton Mintz, "Hill Witnesses Rap Helmet Makers for Huge Injury Toll," *The Washington Post*; February 19, 1969; Arthur L. Dickinson, "The Incidence of Graded Cerebral Concussions Sustained by Athletes Participating in Intercollegiate Football," *The Journal of the National Athletic Trainers Association* 2;2 (Summer 1967): 14-15.

[69] "Statement of David Rust," *National Commission on Product Safety Hearings, Washington, Jan-Feb 1969,* (New York, NY: Law-Arts Publishers, Inc.: 1970): 421-431.

given the constraints of design and technical challenges. While stating that any single player's death was of course important, Rust deftly minimized the number or importance of such sports-related deaths by adding "as well as any death in the hundreds of thousands that we are losing in Vietnam." He further insisted that "it is a physical impossibility to design a football helmet in the state of the art now or in the foreseeable future that will totally prevent death in a football game, and I don't think there is any man today that will tell you it is possible to make that design criteria, and if it was, we would certainly like to meet him."[70]

Both Philo and Rust thus drew on available medical literature to make conflicting arguments about the effectiveness of available football helmets. Despite Rust's testimony contending that manufacturers were designing the best possible helmets while forced to accommodate the inconvenient sweat problems and other whims of athletes, the NCPS continued to include football helmets among their list of dangerous products under review. At another 1969 hearing, Representative Joshua Eilberg of Pennsylvania asked whether manufacturers should continue to have exclusive power to set standards for "football helmets that do not prevent brain concussions" along an array of other dangerous products, from charcoal lighters to floor furnaces with grills that could burn toddlers.[71]

In 1970, the National Commission issued its final report to the president and Congress. In the report, Arnold B. Elkind, Chairman of the National Commission on Product Safety, argued that there was no justification for exposing an entire population to risks of injury or death that

[70] "Statement of David Rust," *National Commission on Product Safety Hearings,* 430; Morton Mintz, "Hill Witnesses Rap Helmet Makers for Huge Injury Toll," *The Washington Post*; February 19, 1969.

[71] Joshua Eilberg, "Statement of Hon. Joshua Eilberg, A Representative in Congress From the State of Pennsylvania," *National Commission on Product Safety Extension and Child Protection Act: Hearings Before the Subcommittee on Commerce and Finance of the Committee on Interstate and Foreign Commerce, House of Representatives,* 91st Congress, first session, May 20 and 22, 1969, 93.

were not apparent to consumers. "Such hazards must be controlled and limited not at the option of the producer but as a matter of right to the consumer." The report specifically identified 16 consumer products as "unreasonably hazardous," including football and motorcycle helmets in the category of protective headgear. After describing the severe injury suffered by eighth grader Michael McClelland, the report noted that "no industry standard whatever has been developed for protective headgear." Furthermore, buyers were completely dependent upon manufacturers, because a superficial inspection of a helmet was not sufficient to determine its strength and effectiveness.[72]

The final report described the need for government action to address many glaring needs. In addition to football helmets, many other household and consumer products had prompted extensive concern, from fireworks to infant furniture. Major newspapers reported on the commission's key findings and recommendations: No government agency had general authority to ban dangerous products or require that consumer products meet minimum safety standards. Existing authority over particular categories of products was scattered across agencies and hampered by "bargain-basement budgets" and enormous bureaucratic hurdles. The federal government did not systematically collect or disseminate data on product safety and thus had no

[72] The sixteen categories of products highlighted in the final report as including unreasonably hazardous models or types were: "architectural glass, color television sets, fireworks, floor furnaces, glass bottles, high-rise bicycles, hot-water vaporizers, household chemicals, infant furniture, ladders, power tools, protective headgear, rotary lawnmowers, toys, unvented gas heaters, and wringer washers." National Commission on Product Safety: Final Report Presented to the President and Congress, June 1970 (Washington, DC: Government Printing Office, 1970), 1; Jules Witcover, "Panel Details Perils of 16 Home Products," *Los Angeles Times*; June 29, 1970; "Identification of Product Hazards," in National Commission on Product Safety: Final Report Presented to the President and Congress, June 1970 (Washington, DC: Government Printing Office, 1970), 28.

"early-warning system" of potentially hazardous products, nor could it mandate the recall of dangerous products.[73]

Following the National Commission's recommendation that Congress create an independent federal agency with substantial power to regulate consumer products, in October 1972, Congress passed the Consumer Product Safety Act to create the U.S. Consumer Product Safety Commission (CPSC). The CPSC, an independent federal agency to protect Americans from dangerous or defective consumer products, was granted the authority to set mandatory safety standards and to recall or ban products, among its other powers. To address the absence of injury data, Congress also gave the CPSC a major non-regulatory responsibility: the establishment of an "injury information clearinghouse to collect, investigate, analyze, and disseminate injury data."[74]

The CPSC would primarily meet this responsibility through the National Electronic Injury Surveillance System (NEISS), a system originally designed in 1970 to obtain injury data from a sample of 119 representative emergency rooms in the 48 contiguous U.S. States. The NEISS became the core data system of the CPSC's Bureau of Epidemiology once the agency was activated in 1973; the NEISS thus formed one of the major mechanisms for the CPSC to collect injury statistics. A 1975 CPSC brochure, "Together we can reduce injury," emphasized the NEISS as a key part of CSPC's work and a source of reliable information about product

[73] National Commission on Product Safety: Final Report, 1970; Jules Witcover, "Commission Warns of Product Hazards," *Los Angeles Times*; June 24, 1970; "Excerpts From Product Safety Report," *Washington Post*; June 24, 1970; Jules Witcover, "Panel Details Perils of 16 Home Products," *Los Angeles Times*; June 29, 1970.

[74] Pub. Law No. 92-573 (October 28, 1972); Antonin Scalia and Frank Goodman, "Procedural Aspects of the Consumer Product Safety Act," *UCLA Law Review* 20 (1973): 899-953; Carl Tobias, "Revitalizing the Consumer Product Safety Commission," *Montana Law Review* 50;2 (1989): 237-241; Robert S. Adler, "From 'Model Agency' to Basket Case—Can the Consumer Product Safety Commission be Redeemed?" *Administrative Law Review* 41;1 (1989): 61-129.

safety. The development of the NEISS was hailed as part of a broader movement toward a scientific approach to tracking and reducing injuries.[75]

In 1974, the CPSC published an analysis of football injuries based on NEISS data, as well as an assessment of the efficacy of football equipment. The report estimated that 300,000 football injuries were treated annually in hospital emergency rooms nationwide, a figure extrapolated from the 14,280 injuries reported in the NEISS data set for the 1973 calendar year. Over 80 percent of these football injuries affected children aged 5-19 years. The majority of these were strains, sprains, contusions and abrasions; in fact, only 1 percent of the reported injuries were concussions, "a diagnosis which can be quite serious," observed the report. It seems probable that concussions were vastly underreported in this data set, given that football players were unlikely to go to the emergency room for treatment for a concussion during this period unless they had been severely and obviously injured.[76]

The CPSC also assessed the effectiveness of protective equipment by conducting in-depth investigations of 112 of the reported injuries. This subset of injuries was not randomly selected; instead, investigators focused on the most severe injuries documented in the emergency room records. Investigators assigned an evaluation of "Protective Equipment Not Effective" to cases where injuries occurred underneath protective padded covering (see Figure 9).

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[75] Susan P. Baker and William Haddon, Jr., "Reducing Injuries and Their Results: The Scientific Approach," *The Milbank Memorial Fund Quarterly, Health and Society* 52; 4(1974): 377-389; Division of Hazard and Injury Systems, "NEISS: The National Electronic Surveillance System: A Tool For Researchers," U.S. Consumer Product Safety Commission (March 2000), accessed September 16, 2015 at https://www.cpsc.gov//PageFiles/106626/2000d015.pdf; U.S. Consumer Product Safety Commission, "Together We Can Reduce Injury," (Washington, DC: U.S. Consumer Product Safety Commission, 1975).

[76] U.S. Consumer Product Safety Commission, *Hazard Analysis: Football: Activity and Related Equipment* [NIIC 1211-74 H010] (Washington: The Bureau of Epidemiology, 1974), 6.

Figure 9. Sample of CPSC In-Depth Case Reports of Football Injuries[77]

Age	Precipitating event/ Activity	Description	Result (diagnosis)	Disposition	Product make/ Composition
15	Hit in head	Victim was tackled in a high school game. The coach said, when he fell, his chin hit the ground and the tackler's jaw bone hit the victim's temple.	Concussion, head	Treated & released	Face guard
13	Hit in head	After he was tackled in a Jr. High game, victim's helmet was struck by another player's knee.	Concussion, head	Treated & released	Riddell football helmet
16	Elbow in face	After making a tackle during practice, other player's forearm struck victim's nose, breaking it. All of the players were practicing in full football protective equipment. Facemask had a single bar.	Fracture, nose	Treated & admitted (1 day)	Single bar face mask
10	Hit in head	Victim was tackled in Midget league practice. "After the play was over, several other players piled on."	Concussion, head	Treated & released	Wilson football helmet F 2043 (D)
16	Tackling	This was the first day of contact during pre-season practice. During one-on-one tackling the victim was struck by the head and shoulders of the other player, on helmet and upper trunk. He was lifted up and back falling on his buttocks. He suffered a mild concussion in October 1972.	Subdural hematoma	Hospital (28 days) Expired	Helmet MacGregor 100MH

[77] This is a sample of injuries included in the "Organized Football (Protective Equipment Not Effective)" chart reported in the 1974 CSPC report. For the purposes of this sample of injuries, case numbers, dates, and sex were all removed. All included cases affected males and all injuries occurred in 1972 or 1973. U.S. Consumer Product Safety Commission, *Hazard Analysis: Football*.

Most of these injuries occurred after contact or tackling, and included cases of concussions that occurred despite athletes wearing a helmet. Investigators found that when safety equipment was involved in injury, the equipment tended to be ineffective rather than defective. Most injuries were not life-threatening, the CPSC report observed. Nonetheless, the report concluded that "No single act, short of prohibiting football, could have a dramatic effect in reducing the injury rate."[78]

Setting Helmet Standards: ASTM and NOCSAE

The consumer product safety movement that led to creation of CPSC also helped foster the creation of several committees to set voluntary standards for football helmets as a means to reduce injuries. By the 1960s, longstanding criticisms about the lack of data on football helmet safety or equipment standards had become complementary to broader calls for government health and safety research and regulation. The already established American Standards Association and the American Society for Testing and Materials, both non-profit voluntary standards associations formed by engineers and scientists, would devote attention to protective football gear. Ultimately, however, a new standards organization dedicated specifically to athletic equipment would prove most influential in the development of tackle football equipment standards. This new organization, NOCSAE, would also prove most influential in promoting the view that equipment standards were effective and essential to improving player safety.

Dr. George Snively, who had researched football helmet design with collaborators at UC Davis, was involved in some of the earliest efforts to set national standards for protective headgear with the American Standards Association (ASA). The ASA had been originally

[78] U.S. Consumer Product Safety Commission, *Hazard Analysis: Football*, 20.

established as the American Engineering Standards committee by several professional societies of American engineers in 1916. Reorganized and renamed the ASA in 1928, this nongovernmental association set voluntary national standards for a range of products. In 1961, ASA established its first committee on protective headgear, with a focus on road user safety. The membership of this group, designated the Z90 Committee, included the United States Armed Forces, Motor Sports Associations, the National Safety Council, insurance associations, law enforcement agencies, helmet manufacturers, and independent experts. Chaired by Dr. Snively, the committee developed its first standard for headgear for vehicular users in 1966.[79]

In November of 1967, the ASA's Z90 committee first considered broadening its scope to include the development of standards for helmets used in sports, beginning with football. At the 1969 NCPS hearings, Dr. Snively noted that the Z90 committee was in the midst of revising a draft for its first football helmet standard. Yet he testified that all "voluntary standards" suffered from a lack of enforcement. Despite the existence of the Z90 standard on vehicular headgear, he continued, "many manufacturers are far from the upper limits of the present state of the art with respect to their product." Dr. Snively concluded that external quality control enforced by an agency or other source independent of helmet manufacturers appeared to be necessary to ensure satisfactory product quality.[80]

[79] "Statement of Dr. George G. Snively, M.D.," *National Commission on Product Safety Hearings, Washington, Jan-Feb 1969,* (New York, NY: Law-Arts Publishers, Inc.: 1970): 438-442; Edward B. Becker, "Helmet Development and Standards," 1998; American National Standards Institute, "1918-2008: ANSI: An Historical Overview," *ANSI Public Document Library*; Accessed September 14, 2015 at http://publicaa.ansi.org/sites/apdl/Documents/News%20and%20Publications/Links%20Within%20Stories/ANSI%20-%20A%20Historical%20Overview.pdf.

[80] "Statement of Dr. George G. Snively, M.D.," *National Commission,* 1970.

Around this same time, the American Society for Testing and Materials (ASTM) also became involved in studying football helmets. Similar to ASA, ASTM was another voluntary standards organization; manufacturers could determine for themselves whether or not their products met any standards these organizations promulgated. ASTM announced in an October 1968 newsletter that, at the request of representatives of organized football and of the American College of Surgeons, they would be sponsoring a conference on ways to reduce athletic injuries. They invited all interested parties, from players, trainers and doctors to design experts and sporting goods manufacturers, with the hope that "a re-examination of the entire football contact environment in such a multidisciplinary organization as ASTM can achieve beneficial results"[81] As so many other professional organizations had done, they noted the need for more research on football's health risks. The conference announcement cited Dr. James E. Nixon, the team physician for the Philadelphia Eagles, on the inability to evaluate theories about the causes behind football injuries: "until data can be gathered and studied, it simply won't be possible to reach valid conclusions."[82]

In 1969, ASTM staff sent out thousands of invitations to interested individuals and organizations to establish a new, broad-based technical committee on sports equipment and facilities. Designated as the F-8 committee, this committee was approved by ASTM's Board of Directors to establish standards for sports equipment and related materials in order to minimize injuries, "with initial emphasis on football." Dr. Creighton Hale, vice president and director of research for Little League Baseball, was elected chairman of the committee. Hale, a physiologist

[81] American Society for Testing and Materials, "Football Injury Conference Called For November," *Materials Research and Standards* 8;10 (October 1968): 26-27; Edward B. Becker, "Helmet Development and Standards," 1998.

[82] American Society for Testing and Materials, "Football Injury Conference Called For November," *Materials Research and Standards* 8;10 (October 1968): 26-27.

and promoter of youth sports, had previously contended that available research favored participation as competitive sports as being beneficial overall for young children (see chapter two). Now, he would chair a committee intended to write minimum standards for protective equipment to reduce injuries associated with such sports.[83]

At its first meeting in September 1969, Committee F-8 met to discuss "recommended practices to determine how to measure fit and the energy absorbing qualities of sports equipment, and to test restraint devices to protect various parts of the body as well as the changes in game rules to reduce injuries." With an initial focus on football helmets and preventing head and neck injuries, the committee's original subcommittees were entitled "Head and Neck" and "Body and Extremities." As Committee F-8 expanded its work to include a range of other sports and activities, such as skiing and trampoline use, the committee was restructured into subcommittees with foci such as header, footwear, medical aspects, biomechanics, and statistics.[84]

In 1971, Creighton J. Hale delivered a lecture at ASTM's annual meeting in Atlantic City, New Jersey, where he discussed the work of the F-8 committee he chaired and the challenges the committee faced. He opened his address by quoting an engineer who, upon learning of ASTM's newly created committee on sports equipment, asked the society's managing director, "What in blazes is ASTM doing in that business?" Hale responded to this question, which was potentially shared by other members of ASTM, by contending that hundreds

[83] American Society for Testing and Materials, "New Technical Committees: What They Are and What They Do," *Materials Research and Standards* 9;10 (October 1969): Center Insert, n.p.; American Society for Testing and Materials, "Dr. Creighton J. Hale Named Chairman of Protective Sports Equipment Committee," *Materials Research and Standards* 9;12 (December 1969): 40; William F. Hulse, "Sports Equipment Standards," In: Vinger, Paul F. and Hoerner, Earl F, eds. *Sports Injuries: The Unthwarted Epidemic* (Littleton, MA: PSG Publishing Company, 1981): 378-382. Committee F-8 held its first meeting on September 15-16, 1969 at ASTM Headquarters in Philadelphia, Pennsylvania.

[84] American Society for Testing and Materials, "ASTM Newsfront," *Materials Research and Standards* 9;9 (September 1969): 5; William F. Hulse, "Sports Equipment Standards," 1981.

of people were being killed or seriously injured while playing sports due to inadequate equipment. Despite years of recommendations for improving sports equipment, no standards had been developed, and it was unrealistic to expect manufacturers to resolve the problem alone. Instead, he continued, a team including engineers, physicians, coaches, trainers, research specialists and others would need to be involved, "and ASTM has the background, the expertise, and the formula and has now assembled the team necessary to establish these standards."[85]

Hale emphasized that the committee faced significant barriers in their efforts to develop such standards: "unfortunately, sufficient knowledge of human tolerance of impacts to the head is not available in a form that can be applied directly to the design of helmets." Hale further highlighted the difficulties of conducting experiments which would provide data that corresponded to how the human brain actually responded to the forces and impacts to which players were subjected on the field. He concluded that the primary obstacle to improving protective equipment was not the various sporting events in which people engaged, but the "fact that we are working with humans," including all the complexity of human bodies and human behaviors.[86]

Media characterizations of the challenge of setting football helmet standards were at times more sanguine than Hale's presentation. Hale's statement that "What F-8 must accomplish can be stated very simply" was apparently rephrased by one reporter to read "Basically, it's very simple to set standards for football equipment." Yet in addition to the alteration of meaning involved in such a translation, Hale's portrayal of the existing evidence also contributed to

[85] Creighton J. Hale, "Significant Trends and Complex Barriers in the Engineering of Protective Sports Equipment," *Materials Research and Standards* 11; 10 (October 1971): 8-12.

[86] Creighton J. Hale, "Significant Trends and Complex Barriers," 1971.

downplaying the potential long-term risks of tackle football. "Some claim that professional football players get punchy from too many blows to the head, but there is no factual evidence to prove that claim now," he was quoted as saying. The absence of evidence was construed as an absence of harm. Despite acknowledging the engineering challenges, Hale concluded his address with confidence that the ASTM's sports equipment committee would successfully set effective helmet standards that would minimize injuries and deaths among sports participants.[87]

In 1974, ASTM would publish and maintain a helmet test method for "Shock Attenuation Characteristics of Protective Headgear for Football," a method supported by laboratory data from seven laboratories, "none of which is a football helmet manufacturer." By 1976, Committee F-8 boasted a roster of 263 members serving on 15 administrative, activities, and resource subcommittees. ASTM further expanded its work on sports-related standards by developing a new subcommittee focused on female athletes.[88]

Neither ASA nor ASTM would have the influence on football helmets, however, of the National Operating Committee on Standards for Athletic Equipment (NOCSAE). NOCSAE was similar to the ASTM's committee in that it was created as a multidisciplinary group with an initial focus on football helmets. The organizations differed in several keys ways, however, and these differences help explain why NOCSAE's certification standards ultimately proved most influential for tackle football equipment.

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[87] "Doctors Plan Defense to Stop Injuries," *The Journal* [Ogdensburg, NY], Thursday, September 9, 1971, page 3; Creighton J. Hale, "Significant Trends and Complex Barriers," 1971.

[88] "Activities subcommittees focus on individual sports—namely, football, gymnastics, wrestling, fencing, skiing, and hockey. Resource subcommittees address medical aspects and biomechanics, playing surfaces and facilities, headgear, footwear, padding, and apparel." "Female Athletes Seek Equal Time on Committee F-8," *ASTM Standardization News* 4; 9 (September 1976): 29. See also William F. Hulse, "Sports Equipment Standards," 1981.

First, leading sports organizations, notably the NCAA at the college level and the NFSHSAA at the high school level, joined together in the formation of NOCSAE. As exercise and sport science researcher J. Nadine Gelberg has observed, the NCAA and NFSHAA's involvement in NOCSAE was intended to ensure that sports organizations could retain control over sports standards, rules and regulations. The NCAA and NFSHSAA did not pay any membership dues to NOCSAE; instead, all of NOCSAE's financial support came from the Sporting Goods Manufacturers Association. By contrast, ASTM's committee emphasized expertise in standards writing rather than experience or vested interests in sports administration or sporting goods manufacturing. In fact, ASTM had a rule that the committee's chairman could not be an equipment producer, hence the selection of Creighton Hale of Little League Baseball as chair. According to the "Regulations Governing ASTM Technical Committees," another rule required that the number of producers could not exceed non-producers of sports equipment on the committee. On the other hand, with the logistical clout and financial support of leading sporting goods manufacturers and organized football organizations, NOCSAE standards were more readily available to be adopted by the rules committees of the NFHSAA and NCAA.[89]

Secondly, ASTM operated as a "consensus" standards organization, which was required to follow a set of due process standards until "substantial agreement is reached by concerned interests according to the judgement of a duly appointed authority." This was "the prime difference between a NOCSAE Standard and an ASTM voluntary consensus standard" explained

[89] J. Nadine Gelberg, "The Lethal Weapon: How the Plastic Football Helmet Transformed the Game of Football, 1939-1994," *Bulletin of Science, Technology & Society* 15;5-6 (1995): 302-309; "Round Table Discussion: Standards for Sports Equipment and Facilities," *Proceedings of the Second National Sports Safety Conferenc*e, *Chicago, IL, October 15-17, 1976 (*Washington, DC: The American Alliance for Health, Physical Education, and Recreation: 1977): 105-107; William F. Hulse, "ASTM—F-8 Committee on Sports Equipment and Facilities," *Proceedings of the Second National Sports Safety Conferenc*e, *Chicago, IL, October 15-17, 1976 (*Washington, DC: The American Alliance for Health, Physical Education, and Recreation: 1977): 97-101.

William Hulse of ASTM in 1976. ASTM defined this due process as involving eight points, including in part the opportunity of all interested parties to participate in meetings, the publication and distribution of meeting minutes, adequate notices of proposed standards and proposed actions, reports on balloting results, and attention to minority opinions throughout the process. While ASTM committees were open and any interested party could participate in meetings, NOCSAE was composed of organizations and its membership was closed.[90]

Sports safety researcher Dr. Kenneth S. Clarke later recalled that the formation of NOCSAE was prompted by the determination that ASTM's typical lengthy "consensus" process for developing standards "would be too time-consuming to rely on for the earliest possible resolution" of the football head injury problem. But this desire to swiftly establish safety standards for equipment was in turn connected with a fear of potential lawsuits. In 1970, *NCAA News* described the formation of NOCSAE as part of an article announcing a jury decision—a victory, from the NCAA's perspective—to clear Rawlings Sporting Goods Company of any legal responsibility for a catastrophic football injury. The case had involved a high school football player who was left quadriplegic "from a violent twisting of the head" after being tackled, despite having worn a Rawlings football helmet.[91]

David Rust, counsel for Rawlings in this case and one of the lawyers who had testified at the 1969 NCPS hearings, explained that he and his legal team had needed to show that the helmet had nothing to do with the injury, because helmets could not protect players against

[90] William F. Hulse, "ASTM—F-8 Committee on Sports Equipment and Facilities," *Proceedings of the Second National Sports Safety Conferenc*e, *Chicago, IL, October 15-17, 1976 (*Washington, DC: The American Alliance for Health, Physical Education, and Recreation: 1977): 97-101.

[91] "Kenneth S. Clarke, "Epidemiology of Athletic Head Injury," *Clinics in Sports Medicine* 17;1 (1998): 1-12; "Victory, But Equipment Improvement Still Sought," *NCAA News* 7;10 (November 1970): 3.

rotational forces. “The only way to protect against this is to encapsule the person—but then he couldn’t play football.” As Rust had successfully argued in court, the serious risks associated with twisting or rotational forces could not be prevented with protective gear, and limiting boys from playing football was seemingly not an option open for consideration. Consequently, such injuries presumably needed to be accepted by participants and their parents as an inevitable risk of tackle football.[92]

Despite this particular victory, however, sporting goods manufacturers and sports organizations remained concerned about the potential legal responsibility they might face down the road for severe sports injuries. The *NCAA News* warned readers that “vindication proved expensive for Rawlings,” with a price tag of $500,000 for legal fees and other expenses. James H. Wilkinson, an NCAA staffer and secretary of NOCSAE, stated, “A very grave danger to intercollegiate—and all other—athletics does exist concerning protective headgear and, while negligence per se does not exist, all organizations concerned are anxious to increase safety and to resolve the legal problems quickly.”[93] Dr. William Combs, a NOCSAE committee member representing the American College Health Association, told *NCAA News* “the future of athletics is in jeopardy because of potential lawsuits relating to injuries received in sports.”[94]

Although planning for NOCSAE began in 1969, the first formal meeting of the organization did not take place until April 8, 1970. Representatives from sporting goods companies (Rawlings, Wilson, MacGregor, Spaulding, and Riddell), the National Federation of State High School Associations, the National Junior College Athletic Association, Oklahoma

[92] “Victory, But Equipment Improvement Still Sought,” *NCAA News* 7;10 (November 1970): 3.

[93] *Ibid*.

[94] “Committee To Set Equipment Standards is Created,” *NCAA News* 7;6 (June 1970): 5.

State University, Big Eight Conference, the National Collegiate Athletic Association (NCAA), and the National Athletic Trainers Association attended this first formal meeting of NOCSAE. The committee unanimously agreed that creating NOCSAE as a permanent committee, with the goal of establishing minimum standards for athletic equipment, was in the best interests of interscholastic and intercollegiate athletics.[95]

In 1970, NOCSAE awarded its first research grant to the Department of Neurosurgery at Wayne State University in Detroit for a one year study of the effects of head impacts in tackle football. In 1971, research led by engineer Dr. Voigt Hodgson began at Wayne State's Gurdijan-Lissner biomechanics lab; the university had been selected to develop NOCSAE's voluntary football helmet standard. Dr. Hodgson wrote that the first problem he confronted was devising a more realistic head model for use in testing. He used measurements from cadavers to develop a synthetic head model, and devised a test method based on a cerebral concussion tolerance curve that had been developed in 1966 by Charles Gadd of General Motors. At the Fourteenth Stapp Car Crash Conference in 1970, critics would urge caution in using such popular head tolerance criteria because it was based on translational motion instead of rotational motion. Translational motion, or linear motion, refers to movement in a single direction, whereas rotational motion refers to movement around an axis. Rotational movements of the brain are common in cases of "whiplash" with no direct impact to the head, for instance. Critics observed that rotational motion appeared to be more critical than linear motion to the production of human brain injury.

[95] Frederick O. Mueller and Robert C. Cantu, *Football Fatalities and Catastrophic Injuries, 1931-2008*.

Nonetheless, the development of NOCSAE football helmet standards was closely connected with car crash safety research based on linear impacts that had been conducted in the 1960s.[96]

In 1973, NOCSAE promulgated its first helmet standard, and leading organized tackle football organizations at both the youth and college levels quickly adopted the standards. In 1975, Dr. Hodgson noted that all new helmets in high school and college football would be certified by the NOCSAE standard. After a "grandfather" period for older helmets, NOCSAE certified helmets would become mandatory in 1978 for NCAA college players and in 1980 for high school players playing under the auspices of the National Federation for State High School Associations (NFHS). Dr. Hodgson expressed confidence that the replacement of older helmets with NOCSAE certified helmets would significantly reduce head injuries.[97]

As the ASTM committee developed a football helmet testing method and continued to work on a standard, and as the adoption of NOCSAE helmet standards got underway, football coaches and administrators were clearly eager to adopt the most effective equipment for their players. At times, they were also understandably confused and even frustrated by the apparent proliferation of standards without a clear indication of which specific helmets offered the most protection. A 1976 conference on sports safety co-sponsored by the American School and

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[96] Gary Delforge, "The Professional Services Division: What is it Doing for You?" *The Journal of the National Athletic Trainers Association* 6;4 (1971): 176-178; Voigt R. Hodgson, "National Operating Committee on Standards for Athletic Equipment Football Helmet Certification Program," *Medicine and Science in Sports* 7;3 (1975): 225-232; Charles Gadd, "Tolerable Severity Index in Whole-Head, Nonmechanical Impact," in *15th Stapp Car Crash Conference Proceedings* (Coronado, California: November 17-19, 1971): 809-816. On the critiques of using head impact criteria based on translational motion, as well as a review of biomechanical research on skull/brain injury tolerance from 1960-1980, and how these research findings were used in the context of motor vehicle safety, see Robert L. Hess, Kathleen Weber, and John W. Melvin, "Review of Literature and Regulation Relating to Head Impact Tolerance and Injury Criteria," (Ann Arbor, MI: University of Michigan Highway Safety Research Institute, 1980). See also Arthur E. Hirsch and Ayub K. Ommaya, "Protection from Brain Injury: The Relative Significance of Translational and Rotational Motions of the Head after Impact," (SAE Technical Paper 700899) in *14th Stapp Car Crash Conference Proceedings* (Ann Arbor, MI: November 17-18, 1970): 144-151.

[97] Voigt R. Hodgson, "National Operating Committee on Standards for Athletic Equipment Football Helmet Certification Program," 1975.

Community Safety Association and the Sports Safety and Health Care Society included a session on sports equipment and facilities standards with extensive presentations from both NOCSAE and ASTM representatives. When the floor was finally opened for a question and answer period, the very first questioner inquired,

> We spent a lot of time and energy to improve our football program for next year. Despite all our efforts, we could not find anyone to tell us what was the best kind of helmet to buy. Is there any possibility that at some point these helmets will be ranked in order according to safety and/or will anybody who is in a responsible position come out and give us a definite answer as to what is the safest helmet to put on a youngster's head?[98]

In response to this question, Dr. Hodgson of NOCSAE said at the moment he did not want to endorse any particular helmet, and that defining the "best helmet" was difficult. Instead of ranking helmets, NOCSAE was offering a minimum standard for helmets to meet, and helmets that met this standard would be granted NOCSAE's certification and seal of approval. In advance of making NOCSAE certified helmets mandatory in 1980, in 1979 the NFHS prepared a set of "NOSCAE Questions and Answers" to clarify the requirements for its members. As published in the November 1979 issue of the *Kentucky High School Athlete*, the handout indicated that referees would not be expected to specifically inspect helmets to see whether they carried the NOCSAE seal. Instead, each team's head coach, along with the school's trainers and equipment managers, would be responsible for ensuring their players were wearing proper equipment. Given that the expectation that student-athletes would need to wear NOCSAE-certified helmets was first mentioned in 1974, NFHS schools would not be permitted any

[98] "Question and Answer Period," *Proceedings of the Second National Sports Safety Conferenc*e, *Chicago, IL, October 15-17, 1976 (*Washington, DC: The American Alliance for Health, Physical Education, and Recreation: 1977): 101-104.

waivers past the 1980. To this end, the handout reiterated the view that the adoption of the NOCSAE test standard was associated with fewer football head injuries and fatalities.[99]

NOCASE's helmet standard had been swiftly adopted amid ongoing scientific uncertainty about how effectively such lab-tested standards might translate into on-field protection, particularly with regard to preventing concussions. As Dr. Voigt Hodgson of NOCSAE acknowledged in response to a question about higher helmet standards, "We just don't know that much and we're kind of feeling our way along . . . . It's not pure science that we are dealing with here." In fact, in a 1977 review of NOCASE's standards program, Dr. Hodgson expressed the hope that one of the more counterintuitive ways NOCSAE helmets standards would decrease football injuries would be by increasing awareness of the limitations of equipment.[100]

As it turned out, the promulgation of NOCSAE standards would not only raise questions about equipment limitations, but also about the limits of NOCSAE's standards themselves. In 1984, researchers G. Rex Bryce and Ruel M. Barker at Brigham Young University would call into question NOCSAE's "woefully inadequate" testing policy of sampling a single helmet in order to determine whether a set of refurbished helmets were acceptable. In their study, Barker and Bryce obtained 30 helmets from three different schools that had been furnished by three different manufacturers. After labeling and randomizing the helmets, they sent the helmets to

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[99] National Federation of State High School Associations, "NOCSAE Questions and Answers: Certification, Recertification and Reconditioning," *The Kentucky High School Athlete* (November 1979): 6. Accessed August 5, 2015 at Encompass, A Digital Archive of the Research, Creative Works and History of Eastern Kentucky University at http://encompass.eku.edu/.

[100] Voigt R. Hodgson, "Here is What NOCSAE is Doing in its Helmet Standards Program," *Athletic Purchasing & Facilities* 1 (August 1977): 27-28; "Question and Answer Period," *Proceedings of the Second National Sports Safety Conferenc*e, *Chicago, IL, October 15-17, 1976 (*Washington, DC: The American Alliance for Health, Physical Education, and Recreation: 1977): 101-104.

Don Gleisner of the All American Company, a company which reconditioned football helmets and shoulder pads. Gleisner in turn enlisted the help of Dr. Voigt Hodgson to test the helmets according to NOCSAE standard testing procedures at Dr. Hodgson's Wayne State laboratory. Based on the results of these tests, Barker and Bryce found that both the testing variability and the helmet-to-helmet variability was much larger than expected, meaning that helmets could frequently be found in compliance without actually meeting the NOCSAE standard. They concluded that "the current recertification standard established by NOCSAE will do little to protect players if it is followed to the letter by refinishing firms."[101]

But even before later studies identified such flaws in NOCSAE's testing methods, NOCSAE was not without its critics. Lawyer Harry Philo, who had testified at the 1969 NCPS hearings on the inadequacy of football head protection, was particularly severe in his characterization of NOCSAE standards and the process by which they had been created. According to Philo, helmet manufacturers had resisted meaningful standards, and NOCSAE was formed as a more "compatible" organization for the interests of the industry. Members of the committee "quickly gave their NOCSAE seal of approval" to an ineffective standard which did not address injuries related to face guards. Furthermore, he continued:

> They just as quickly eliminated the independent scientists and critics—men such as Dr. George Snively and Dr. C.D. Chichester of the prestigious Snell Memorial Foundation; Dr. Verne Roberts and Dr. James McElhaney of the Highway Safety Research Institute;

[101] G. Rex Bryce and Ruel M. Barker, "Variability and Sampling Inspection in the NOCSAE Standards for Football Helmets," *Research Quarterly for Exercise and Sport* 55;2 (1984): 103-108. Don Gleisner was a former football player who had signed with the Chicago Bears, but never played again after sustaining an injury in a pre-season exhibition match. Gleisner had helped form NOCSAE and had questioned the value of setting the new NOCSAE standards "without including helmets that went through the reconditioning process after being worn for a season." Glesiner went on to start the National Athletic Equipment Reconditioning Association in 1975. James Brady, "Gleisner Was a True Icon," *The Morning Journal News*, February 11, 2012; accessed September 23, 2015 at http://www.morningjournal.com/general-news/20120211/gleisner-was-a-true-icon; Grant Segall, "Don Gleisner Starred in Football and Championed Safer Helmets: News Obituary," *The Plain Dealer* [Cleveland], February 6, 2012, accessed September 23, 2015 at http://www.cleveland.com/obituaries/index.ssf/2012/02/post_52.html.

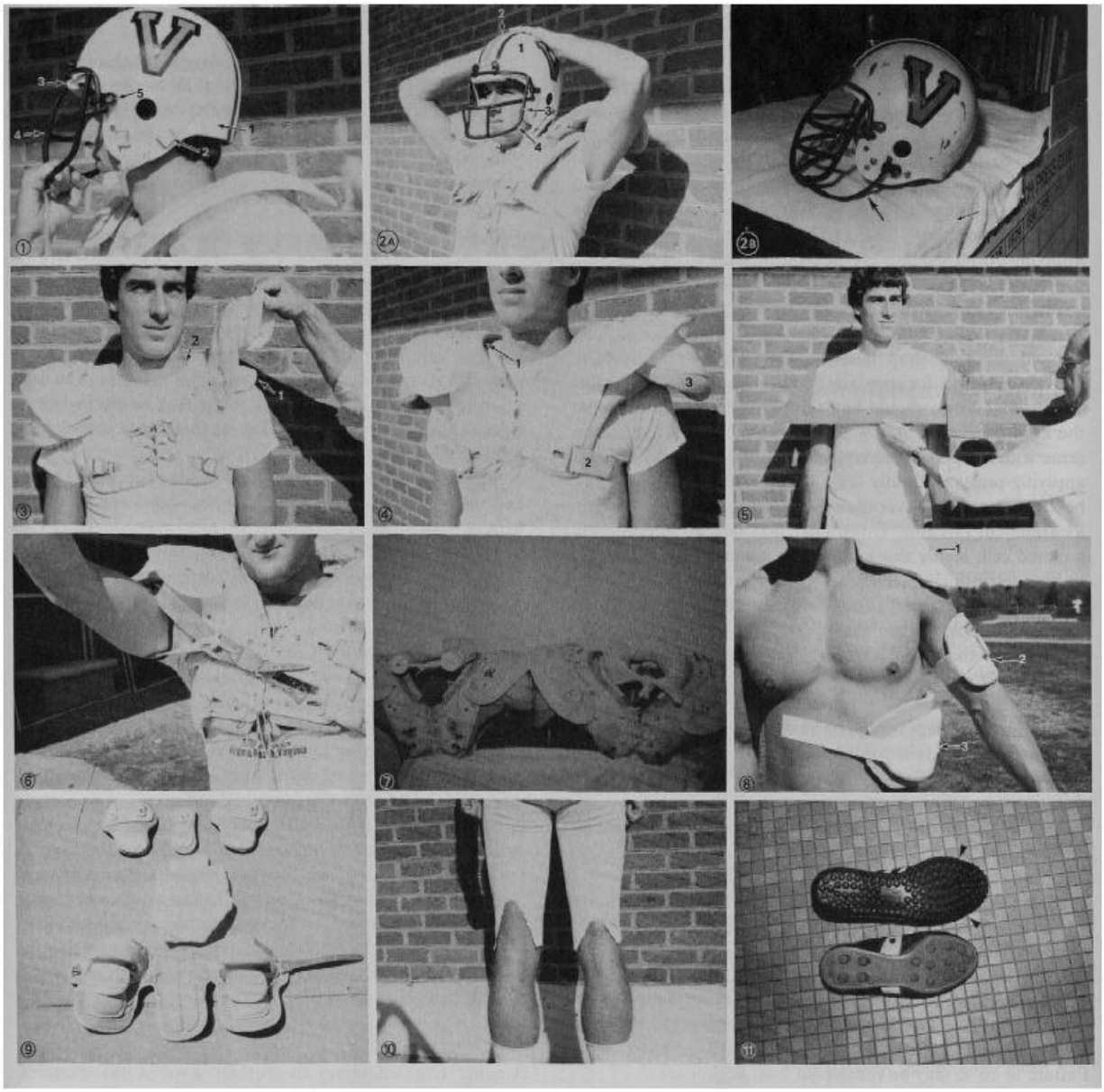
> Dr. Harold Fenner, pioneer in football helmet and head protection; Marshall Irving, helmet test engineer, and others. The resistance to meaningful criticism and the desire of NOCSAE to meet in secret continues today; conferences and seminars are only open to invitees . . . . Most (but not all) helmet manufacturers are still making tens of thousands of helmets each year that will not even meet the NOCSAE approval level. If coaches are willing to buy inferior products, then industry stands willing to participate (for profit) in the crippling of our youth.[102]

Such biting critiques of NOCSAE were not discussed in popular media, however, and thus did not appear to influence public perception of the standards committee. Instead, NOCSAE standards were largely celebrated as scientific efforts to prevent injuries. In 1979, John Friend, a high school football coach, athletic director, and national football chairman of the National High School Athletic Coaches Association, argued in the *Chicago Tribune* that NOCSAE played a major role in football safety. He cited statistics showing a decline in catastrophic head and neck injuries, and told readers that football was becoming "safer and more skillful each year as coaching technique improves and equipment is researched and upgraded." Sporting goods stores advertised their NOCSAE approved helmets. Helmet safety testing and the use of equipment approved by NOCSAE reassured coaches and administrators that they were appropriately managing the risks of youth football to the best of their abilities. As one high school football coach, a self-described "safety kook," put it, "I feel that if every kid has his equipment checked by a professional, if something happens to the kid, I'll have a clear conscience."[103]

[102] Harry M. Philo and Gregory Stine, "The Liability Path to Safer Helmets," *Trial* 13 (1977): 38-40.

[103] John Friend, "Sport Opinion: Prep Football Surviving," *Chicago Tribune*; August 5, 1979; Marvin's Sport City, "Special Football Sale," [Ad] *Washington Post*; August 16, 1979, F6; Michael Sperling, "Uniforming a Football Team is Complex, Costly Procedure," *Washington Post;* August 16, 1984.

Figure 10. Fitting of Protective Football Equipment[104]



Many sports medicine professionals shared this confidence in protective equipment. A 1980 article by a certified athletic trainer and a physician in the *American Journal of Sports Medicine* claimed that "today's modern equipment provides adequate protection," and "all helmets with the NOCSAE seal provide adequate protection if properly fitted." The culprit for

[104] Joe Gieck and Frank C. McCue III, "Fitting of Protective Football Equipment," *The American Journal of Sports Medicine* 8;3 (1980): 192-196.

injuries was not the equipment itself, but overconfident athletes playing with "reckless abandon" or using improper or ill-fitting equipment. To address the latter problem, a problem particularly in evidence at the high school level of play, the authors furnished a fitting guide of the different types of football equipment players would need (see Figure 10).[105]

Conclusion

By 1980, equipment standards organizations, medical professionals and coaches had endorsed the belief that modern, standardized equipment, when properly fitted and worn, provided youth football players sufficient protection against injuries. NOCSAE helmet standards were institutionalized and mandated by the most influential organized football associations, notably the NCAA and the NFHS. The use of standardized equipment could even provide adults involved in youth football a "clear conscience": if injuries did occur, the adults had done all that was possible to protect their players. But the function of equipment in providing reassurance—and absolution in the event of injury—highlighted one of the most important ongoing tensions in the debates over protective football equipment: whether even the best equipment could effectively compensate for the limits of the human body.

From Dr. Pisani's opinion that "the human knee was not meant for football" to the 1974 CPSC report's conclusion that no act short of banning football could dramatically reduce injuries, a number of doctors and prominent safety organizations had pointed to the limits of football equipment. Some epidemiological research conducted by state athletic associations also suggested that equipment modifications would not significantly reduce football injuries. Nonetheless, a broader consumer product safety movement and concerns about football helmet related lawsuits, particularly in the context of a move toward strict liability in tort law, helped

[105] Joe Gieck and Frank C. McCue III, "Fitting of Protective Football Equipment," *The American Journal of Sports Medicine* 8;3 (1980): 192-196.

motivate a focus on the standardization and evaluation of football equipment in football safety efforts.

The work of ASTM's Committee F-8, NOCSAE, and the CPSC on athletic equipment offered competing understandings of the relationship between football equipment and safety. But even the range of these organizations' perspectives highlights the constraints all these committees face in framing the risks of youth football. Although NOCSAE in many ways represented the most sanguine take on the potential of football equipment, its lead researcher, Dr. Hodsgon, hoped his work would prevent injuries in part by highlighting the limitations of helmets. Meanwhile, the CPSC, despite claiming that injuries could not be dramatically reduced without prohibiting tackle football, nevertheless did not regard limiting youth football as a viable option. As the CPSC's 1974 report noted, "Frequently, one can seek to prevent the potentially hazardous event, thereby preventing the injury. In football, we must reduce the risk of injury but permit a potentially hazardous activity to occur."[106] Even where the limitations of helmets were most acknowledged, the perpetuation of youth football was taken as a given. Meanwhile, even the researcher behind NOCSAE's first helmet standard acknowledged the uncertain science involved in his work and the inherent limitations of helmets as a preventative measure.

Equipment debates were influenced by the nature of the equipment under question. The prevention of dental injuries was both particularly urgent and relatively easy to assess given the visibility of tooth damage and loss. Data on mouth guards clearly indicated their effectiveness, and their introduction to the sport thus proved largely uncontroversial. Whether modifying football shoes could effectively prevent knee and ankle injuries, however, was less clear. NYSPHSAA researchers suggested that considering changing the "traditional" nature of football

[106] U.S. Consumer Product Safety Commission, *Hazard Analysis: Football: Activity and Related Equipment* [NIIC 1211-74 H010] (Washington: The Bureau of Epidemiology, 1974), 16.

might be necessary in order to meaningfully reduce such injuries. The mechanics of human joints, particularly the knee, made equipment seem like a less promising avenue to preventing such injuries.

Knee and ankle injuries, however, were acknowledged to be an inherent part of tackle football in a way that head injuries not. As the testimony of two parents about their injured son at the 1969 NCPS hearings indicated, parents were not willing to accept catastrophic brain injuries in the way that they might accept broken legs or arms. Consequently, football helmets proved to be the source of greatest debate and concern. Ultimately, the desire to preserve football—including the efforts of sporting goods manufacturers to reduce their liability (which will be discussed further in chapter four)—prompted investment in developing football helmet standards. Helmet standardization efforts were consistent with ideological beliefs about the value of football, as discussed in chapters one and two. They were also consistent with American faith in science and technology to control hazards. Coaches wanted to preserve football and protect their players, and furnishing athletes with the most modern equipment seemed to fulfill both these goals. Despite the ongoing uncertainty about the reliability and effectiveness of protective equipment, football gear not only remained a primary focus of football safety debates, but symbolized safety itself.

Chapter Four. "High School Football is a Costly Sport"[1]: Sporting Goods Manufacturers, Insurance, and Responsibility for Injury, 1950s-1980s

"High school athletic directors and football coaches…must be as adept at handling dollars as they are at drawing Xs and Os. Football is by far the most expensive of the high school sports."

-Donald Huff, 1976[2]

Contemporary tackle football requires a great deal of protective equipment, from helmets to shoulder pads to cleats. As discussed in previous chapters, this protective gear represented an ongoing focal point in debates over the safety of youth football. Furthermore, the cost of this equipment, as well as the expenses associated with injuries sustained by athletes, made tackle football one of the most expensive sports programs for youth. Consequently, two industries with substantial financial stakes in youth football were insurance companies and sporting goods manufacturers. This chapter examines how these financial interests influenced debates over the safety of youth football, including claims manufacturers made about the efficacy of their equipment, as well as contention over which parties should be held legally and financially responsible for the costs associated with injuries.

Sporting Goods Manufacturers and Football Equipment

As Stephen Hardy has argued, the development and dissemination of standardized sporting goods contributed to the adoption of standardized behavior and values in sports, with a "network of expert coaches, journalists, administrators, manufacturers, and dealers" largely defining the boundaries of organized athletics.[3] By extension, the makers of this protective

[1] Bill Glauber, "High School Football is a Costly Sport," *The Baltimore Sun*; September 5, 1982.

[2] Donald Huff, "Football Dominates Budgets for High School Programs," *The Washington Post*; October 26, 1976.

[3] Stephen Hardy, "'Adopted by All the Leading Clubs': Sporting Goods and the Shaping of Leisure, 1800-1900," in Richard Bustch, ed. *For Fun and Profit: The Transformation of Leisure into Consumption* (Philadelphia: Temple

equipment shaped safety debates, as well as fundamentally influencing the very nature of organized football itself. In promoting their business interests, sporting goods dealers and manufacturers influenced understandings of youth football's health effects, which groups should be considered responsible for football injuries, and the role that their various products could play in mitigating risks.

In the United States, the Sports & Fitness Industry Association, originally established as the Sporting Goods Manufacturers Association (SGMA), has long stood as the leading trade association of manufacturers and retailers of sports equipment. The SGMA was founded by manufacturers of baseball supplies in New York City, as announced in the April 1906 issue of the *Sporting Goods Gazette.* Jason Fletcher Draper of the Draper-Maynard Sporting Goods Company in Plymouth, New Hampshire was elected president, while Cincinnati, Ohio was chosen as the site of the new association's headquarters.[4]

Founded in 1840 by Draper's father and uncle as a home workshop for tanning and glove making, by 1906, the Draper-Maynard Sporting Goods Company employed over 100 men and women and was engaged in factory production of sporting goods for national markets. The company run by SGMA's first president thus exemplified a broader historical transition from handmade goods to industrially produced sporting goods equipment. By the time the SGMA was established, the mass factory production of sports equipment was already well under way, including football-specific items (see figures 11 and 12). Sporting goods manufacturers were operating in the context of a burgeoning sporting goods market. The 1900 U.S. Census listed 144

University Press, 1990), 71-101.

[4] *Sporting Goods Gazette* 14; 1(April 1906): 6.

sporting goods manufacturers (excluding bicycles and billiards), including big names such as Spalding and Rawlings, as well as many smaller firms competing for business.[5]

Figure 11. Stitching Footballs, Draper-Maynard Sporting Goods, c. 1900-1910[6]

[5] Stephen Hardy, "Adopted by All the Leading Clubs," 1990; Rodney Freeman, Katherine C. Donahue, Eric Baxter et al., "The Draper-Maynard Sporting Goods Company of Plymouth, New Hampshire, 1840-1937," *The Journal of the Society of Industrial Archaeology* 20 (1994): 139-151.

[6] In 1904, the Draper-Maynard factory was divided into three separate divisions: baseballs, leather goods, and uniforms, with leather goods remaining the mainstay of the newly organized factory. After the leather was cut by men, it was taken to the sewing room where stitchers, predominantly women, sewed items such as boxing gloves, baseball mitts and footballs. The stitchers shown in this image are in the leather sewing room for stitching footballs. See Freeman et al., "The Draper-Maynard Sporting Goods Company," 1994. Photo courtesy of the Ross Deachman collection. The photo has been copied for use with the permission of Mr. Ross Deachman in an email message to author, November 11, 2015.

Figure 12. Leather Cutting Room, Draper-Maynard Sporting Goods, c. 1900-1910[7]

According to the organization itself, the SGMA has been closely connected with concerns over the safety of youth football since its 1906 founding. In 2006, the SGMA published a commemorative report on the organization's century-long history, observing that the SGMA was founded shortly after the creation of the NCAA in response to outcry over college football injuries and deaths. While noting that the gathering of athletic manufacturers was not assembled directly in response to the college football injury crisis, "it is significant that the SGMA and NCAA began working together to make football, as well as other sports, as injury-free as

[7] In this leather cutting room, football patterns are seen on the wall. These patterns were placed on leather, then pressed to cut out the shapes of the footballs. See Freeman et al., "The Draper-Maynard Sporting Goods Company," 1994. Photo courtesy of the Ross Deachman collection. The photo has been copied for use with the permission of Mr. Ross Deachman in an email message to author, November 11, 2015.

possible." The SGMA's account of its own history, then, emphasizes the industry's close association with efforts to prevent football-related injuries since the organization's founding.[8]

One of the most important football equipment manufacturers, however, was not established until several decades later. In 1922, John Tate Riddell, a football coach at Evanston High School in Illinois, tried to solve a problem his players and other football athletes were experiencing with their shoes: the wood or leather cleats nailed to the bottom of the shoes did not work in wet weather. Furthermore, the nails at the bottom of the shoes sometimes caused injuries. In response to these difficulties, Riddell designed the first removable screw-on cleat, using hard rubber cleats that could be taken on and off players' shoes. He equipped his entire high school football team with these interchangeable cleats, and by 1923 Northwestern University's football team was wearing them, too. In 1927, Riddell decided to quit teaching and coaching, and opened his own company to manufacture the equipment.[9]

Based in Chicago, Riddell's company began by producing these new football cleats and also manufacturing the first soft-spike baseball shoe. But ultimately, Riddell's most influential innovation was not in athletic footwear, but in football helmet design. In 1939, Riddell introduced the first plastic helmet, "the granddaddy of helmet innovations," using tenite, a tough cellulosic plastic. He further developed the sling suspension, a design which provided a pocket of air between the player's head and the hard outer shell of the football helmet. Improving the

[8] Sporting Goods Manufacturers Association, "A Commemorative Report: A Historical Reflection of the U.S. Sporting Goods Industry's Growth and Development in the 20th Century," (North Palm Beach, FL: SGMA, 2006), 6. The SGMA went through several name changes, including the Athletic Goods Manufacturers Association and the Chamber of Commerce of the Athletic Goods Manufacturers of the United States of America.

[9] "John Riddell, War Helmet's Inventor, Dies," *Chicago Daily Tribune*; July 3, 1945; William L. Bird and Roger R. Ebert, *Elyria: Images of America* (Charleston, SC: Arcadia Publishing, 2014); "Army Gets a 'Chute Helmet From Gridiron," *Chicago Daily Tribune*; July 6, 1941; "Riddell Sports Group, Inc." in *International Directory of Company Histories*, ed. Karen Hill, volume 139 (Detroit: St. James Press, 2012), accessed through the *Business Insights: Essentials* database on October 13, 2015.

helmet design and plastic materials required several years of additional experimentation. Gerry Morgan, who joined Riddell in 1945 and later became the company's chairman, recalled that it took until 1950 to finally obtain the right thermoplastic that could absorb impacts and withstand temperature changes. He further highlighted the challenges the company faced in designing effective and comfortable helmets, observing that "the human head is the damndest thing to fit."[10]

In addition to the technical difficulties that required time and new materials to resolve, a relative hiatus in football helmet making occurred with the onset of World War II, while Riddell instead devoted many of its resources to military helmet production. The U.S. Army provided the company with business by adopting a modified version Riddell's plastic helmets for their paratroopers to use. After seeing a Riddell football helmet displayed in a Georgia sporting goods store, an army parachute troop officer liked the greater ventilation and safety afforded by the "off the head" style of Riddell's sling suspension design. In collaboration with the Army, Riddell and his company of 150 employees made some modifications to the helmet, such as a shortening of the ear guards to facilitate the ability of parachute troopers to fire their rifles from their shoulders. Gerry Morgan recalled, "Every GI who went through training wore one and we gave it [the patent] to the government for what I regret was a ridiculously low fee."[11]

After World War II, Riddell returned to its focus on football helmets, a product line which received a major boost when the company began selling its helmets to NFL teams. The

[10] Andrew Gaffney, "Battle Helmets," *Popular Mechanics,* October 1995: 78-81; F. Richard Ciccone, "At This Firm, 11 Heads Are Better Than One," *Chicago Tribune*; October 7, 1976; "Riddell Sports Group, Inc." in *International Directory of Company Histories,* 2012. See also Mark Fainaru-Wada and Steve Wainaru, *League of Denial: The N.F.L., Concussions, and the Battle for Truth* (New York: Random House, 2013), 135.

[11] "Army Gets a 'Chute Helmet From Gridiron," *Chicago Daily Tribune*; July 6, 1941; "John Riddell, War Helmet's Inventor, Dies," *Chicago Daily Tribune*; July 3, 1945; F. Richard Ciccone, "At This Firm, 11 Heads Are Better Than One," *Chicago Tribune*; October 7, 1976.

Chicago Rockets were their first professional customers, followed by the Cleveland Browns. In traveling with teams to adjust and refine helmet designs, Gerry Morgan developed a bar attached to the helmet to protect the face of Cleveland Browns quarterback Otto Graham. This development eventually led to the double bar and the face mask, which proved to be a central point of debate over helmet safety in the 1960s, as discussed in chapter three. By 1949, Riddell had the largest share of the professional football market.[12]

Riddell's connections with professional football and the military helped propel the company to the forefront of football helmet manufacturing. By the mid-1970s, virtually all NFL players were wearing Riddell helmets; the New England Patriots were the only NFL team still using a different brand. Riddell's success contributed not only to the proliferation of its brand, but also to establishing plastic football helmets as essential to both football safety and to the style of the game itself, including the ways players used their heads as weapons. Sporting goods manufacturers, of course, emphasized that their product should not be considered responsible for such risks. In a 1976 interview with the *Chicago Tribune*, Gerry Morgan would blame high school coaches who taught dangerous strategies such as "spearing" for football injuries. He lamented, "the more we've improved the equipment, it seems it's been to the detriment of the game." Meanwhile, the majority of NFL players were modeling both the equipment and playing strategies for younger players. As the *Chicago Tribune* reporter noted, "The Riddell name is

[12] F. Richard Ciccone, "At This Firm, 11 Heads Are Better Than One," *Chicago Tribune*; October 7, 1976; "Riddell Sports Group, Inc." in *International Directory of Company Histories*, ed. Karen Hill, volume 139 (Detroit: St. James Press, 2012), accessed through the *Business Insights: Essentials* database on October 13, 2015.

clearly emblazoned on the front of the helmets millions of American see slamming and banging into each other on television every weekend from September through January."[13]

Riddell was unique in its prominence and specialization in football equipment, but far from alone in its growth and success in the market for sporting goods. Both football participation and equipment sales grew in the decades after World War II. In his 1963 examination of sports in American life, writer Robert Boyle compiled sports participation estimates from the Athletic Institute, the Athletic Goods Manufacturers and Triangle Publications. These organizations estimated that football had grown from 1,500,000 participants in 1946 to 2,000,000 participants in 1961. Their data also indicated that total U.S. consumer purchases of sporting goods equipment had skyrocketed during this postwar period, climbing even during the recession of 1958.[14]

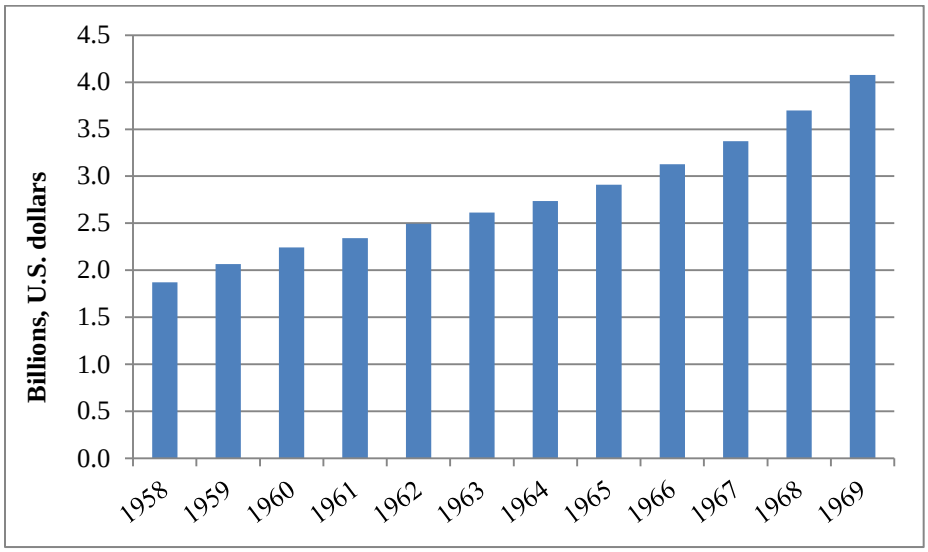
Indeed, a 1958 analysis of sports sales in the *Wall Street Journal* reported that sporting goods industry seemed to be "one of the most sturdily recession-resistant industries in the United States" that year. Reporting that the three big producers of sports equipment—A.G. Spalding & Co., Wilson and MacGregor—all saw sales in 1958 greater or equal to those of the previous year, the *Wall Street Journal's* staff reporters speculated that the industry might be aided by the country's youthful demographics. There were five million more American teenagers than even just five years prior, and school athletic programs were expanding as a result. The sporting goods boom continued through the 1960s; economist Richard Synder found that total sporting goods

[13] F. Richard Ciccone, "At This Firm, 11 Heads Are Better Than One," *Chicago Tribune*; October 7, 1976.

[14] Robert H. Boyle, *Sport: Mirror of American Life* (Boston: Little, Brown and Company, 1963); C.B. Newman and A.H. Fetherolf, "Sales of Bats, Boats and Other Gear Climb Despite the Recession," *Wall Street Journal*; June 17, 1958; Richard Snyder, "The Sporting Goods Market at the Threshold of the Seventies," (Chicago: National Sporting Goods Association, 1969), 1.

sales in the United States more than doubled from 1958 to 1969, from $1,872,600,000 to $4,077,500,000. He dubbed the sales of sporting goods to be "a vast, record-breaking human endeavor" (see Figure 13).[15]

Figure 13. Total Sporting Goods Sales, 1958-1969 (in billions of US dollars)[16]



The popularity of tackle football and the amount of equipment required for the sport presented a particularly promising business opportunity. According to the Athletic Goods Manufacturer's Association, in the fall 1958 season, 11,500 high schools would be fielding football teams, an increase of 1,000 schools from the previous year. Meanwhile, 100,000 younger boys were playing with the Pop Warner and National Boys Football leagues. Even at the

[15] C.B. Newman and A.H. Fetherolf, "Sales of Bats, Boats and Other Gear Climb Despite the Recession," *Wall Street Journal*; June 17, 1958.

[16] Richard Snyder, "The Sporting Goods Market at the Threshold of the Seventies," (Chicago: National Sporting Goods Association, 1969), 4.

Pop Warner level of play, the range of required equipment included helmets, pads, uniforms, and face and teeth protectors, at an estimated cost of $30 per player in 1961.[17]

Perhaps once of the most straightforward ways to estimate football participation was through the sales of footballs. According to this measure, too, the sport's popularity continued to climb past the 1950s and through the 1960s. In 1966, according to the Sporting Goods Manufacturers Association, retail sales of footballs increased to a larger extent than any other common sporting goods item from 1960 to 1965. Football retail sales increased over 60% during this period, from $10,208,000 in 1960 to $16,372,000 in 1965. Furthermore, sporting goods retailers' percent of total retail trade in the United States rose from 2.4% in 1954 to 3.4% in 1968, highlighting the growth and importance of the industry to American business as a whole.[18]

Advertising Equipment

One of the key ways in which sporting goods manufacturers influenced public understandings of youth football safety was through advertising their equipment. In the late nineteenth century, emerging sporting goods equipment powerhouses such as Spalding not only promoted their own brands, but emphasized the need for their new industry's very existence. For example, Stephen Hardy has drawn attention to a series of 1893 Spalding advertisements in the *Sporting News* that depicted equipment produced by independent craftsman as undermining players' performance. One such ad portrayed a baseball player struggling to round the bases in shoes produced by "some inexperienced cobbler." In these early advertisements, manufacturing

[17] C.B. Newman and A.H. Fetherolf, "Sales of Bats, Boats and Other Gear Climb Despite the Recession," *Wall Street Journal*; June 17, 1958; Howard Swindell, "Midget Gridders Ready for Big Games," *Chicago Daily Tribune*; October 8, 1961.

[18] "Retail Sales of Footballs Jump 60.4% Between 1960 and 1965," *American Druggist*, October 10, 1966, 77; Richard Snyder, "The Sporting Goods Market at the Threshold of the Seventies," (Chicago: National Sporting Goods Association, 1969), 1.

firms argued that handcrafted gear would no longer suffice; only manufacturing firms could provide the higher quality, standardized equipment necessary for athletes to participate in organized sports.[19]

Sports marketing and management researchers Lawrence W. Fielding and Lori K. Miller have argued that in the 1920s, sporting goods advertisements shifted from promoting product quality to more intangible appeals and promises. Their findings were consistent with Theodore Levitt's analysis of intangible appeals in marketing. Levitt noted, for instance, that Kodak did not emphasize the superior luminescence of it photographic film in advertisements to prospective buyers, but rather the promise and satisfaction of memories preserved. Similarly, sports advertisements increasingly emphasized how sports equipment and participation could enhance personal style, identity, fulfillment and personality development.[20]

Advertisements for protective sports equipment, however, inherently signaled to consumers that sports activities carried a certain element of risk. The importance of communicating that their equipment could effectively minimize those risks thus interacted with the emphasis on personal fulfilment and achievements. For decades, sporting goods manufacturers consistently promoted their equipment to athletes and coaches as both protecting players against injuries as well as improving athletic performance.

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[19] Stephen Hardy, "Entrepreneurs, Structures, and the Sportgeist: Old Tensions in a Modern Industry," in Donald Kyle and Gary Stark (eds.), *Essays on Sport History and Sport Mythology* (College Station, Texas: Texas A&M Press, 1990): 45-82. For a discussion of the discrediting of the older work practices of the "high class mechanic," as part of efforts to promote new scientific management in manufacturing, see David Montgomery, *Workers' Control in America: Studies in the History of Work, Technology and Labor Struggles* (New York: Cambridge University Press, 1978), 27.

[20] Lawrence W. Fielding and Lori K. Miller, "Advertising and the Development of Consumer Purchasing Criteria: The Sporting Goods Industry, 1900-1930," *Sports Marketing Quarterly* 5;4 (1996): 37-50; Theodore Levitt, "Marketing Intangible Products and Product Intangibles," *Harvard Business Review* 59;3 (1981): 94-102.

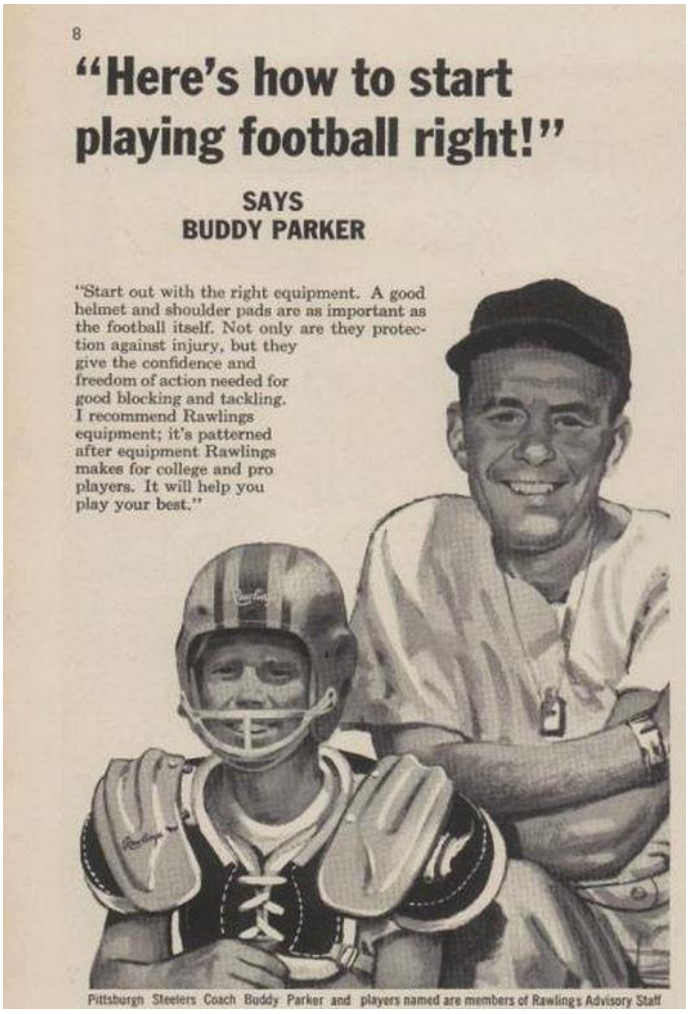
For example, a 1935 advertisement for Rawlings football equipment entitled "Banish fear of injuries" was published in *Athletic Journal,* a trade journal aimed at coaches. The subsequent text emphasized that without fear of injuries, coaches' athletes could play harder and tougher. "Your men can smash through and play their hardest when outfitted with Rawlings equipment…. They'll buck, tackle and block with that air of confidence born only through banishment of injury fears." The Wilson Sporting Goods Company told coaches that "the ability of your team to win" depended on the action, protection and comfort afforded by their varsity and more popularly priced lines of football equipment. Their protective gear included saddle seat football pants, cantilever shoulder pads, corset-back helmets, thigh guards, and kidney pads that were built to cover players' hip bones, kidneys, pelvic bones and lower ribs. The J.A. Dubow Manufacturing Company observed that while good football equipment alone couldn't win championships, by preventing injuries and giving players assurance, quality equipment was a key part of the "victory complex." Such advertisements not only communicated that football equipment could eliminate concerns about injuries, but that the elimination of such concerns was crucial to athletic achievements.[21]

Advertisements aimed both at coaches and at young prospective players promulgated remarkably similar claims through the decades. Yet sales pitches to younger players included the additional appeal that child athletes could emulate their older role models. In 1959, a Rawlings advertisement featuring NFL coach Buddy Parker published in *Boys Life,* the official youth magazine of the Boy Scouts of America, was evidently aimed at young prospective football players. Pictured next to a young boy wearing a football helmet, Buddy Parker recommended

[21] Rawlings Advertisement, "Banish Fear of Injuries," *Athletic Journal* 15; 8 (1935): no page; Wilson Advertisement, "Wilson Offers You Advanced Equipment at a Price to Fit Your Budget," *Athletic Journal* 15; 8 (1935): 28-29; J.A. Dubow Manufacturing Company Advertisement, "Dubow: What Will The Year Bring Forth????" *Athletic Journal* 16;1 (1935): 45.

Rawlings equipment, explaining that the manufacturer's helmets and shoulder pads not only protected against injury, "but they give the confidence and freedom of action needed for good blocking and tackling." The ad further noted that Buddy Parker and players named in the advertisement were members of Rawlings' Advisory Staff. An additional portion of the ad promoted a "Tobin Rote helmet" and a "Bobby Layne official youth football," both named for professional football stars of the day (see figure 14).[22]

Figure 14. Rawlings Advertisement for Football Equipment, 1959



[22] Advertisement, "Here's How to Start Playing Football Right!" *Boys' Life* (September 1959): 8.

Even when they did not include the explicit sponsorship of professional coaches or football players, advertisements targeted at younger children emphasized that the equipment would afford youth athletes the same protection as their older football heroes. In the September 1960 issue of *Boys' Life,* for example, MacGregor depicted a boy wearing a football helmet and a reproduction of a Baltimore Colts' uniform, "just like the pros wear!" Meanwhile, in September 1962, Wilson asked young readers if they were ready for big-time football, stating that "Wilson gives you the same type of protective equipment worn by leading high school, college and professional teams. You get the same helmet and pads worn by top gridiron stars, scaled to your size to give you maximum protection." Football equipment was a means by which children in youth leagues could aspire to future high school, college and even professional football stardom. Football equipment was thus imbued with many meanings, from eliminating fear of injuries to enabling boys to identify with football heroes and allowing them to see themselves on the path to similar athletic achievements.[23]

In addition to linking their equipment with athletic stars and role models, sporting goods manufacturers studied how to make the best use of boys' relationships with their family, particularly their fathers, in advertising their equipment. A 1958 study examining sales, advertising, and merchandising challenges confronted by the Rawlings Sporting Goods Company devoted much space to developing a "typology of paternal participants" and the ways the company could crafts its appeals accordingly. Although the study was primarily focused on baseball gloves, the report suggested that its findings could be applied to Rawlings' other product lines, and even that the company should emphasize "the continuity of sports in all

[23] Wilson Advertisement, "Just Like the Pros Wear!" *Boys Life* (September 1960): 78; Rawlings Advertisement, "Are You Ready for Big-Time Football Equipment?" *Boys' Life* (September 1961): 42-43.

seasons" by offering packages including, for instance, a baseball glove, a basketball, and a football.[24]

The Institute for Motivational Research's report identified three types of fathers, each of whom could provide a particular target for advertising appeals. The first type was the "vicarious athlete," who sought to recapture his own athletic past and participated in athletics through his son. The vicarious athlete perceived the best equipment as enabling his son to perform well. Secondly, the "genuine athlete" believed in the value of sports participation as an integral part of a "healthy life." Finally, the "indifferent athlete" was a father whose primary interest was in developing a strong relationship with his child. He was thus drawn to sports not as a good itself, but as an instrument to strengthening a father-child relationship. Identifying these father-son relationships as key to sporting goods purchases, the report recommended that Rawlings craft appeals to each of these types of fathers. For example, to appeal to the "indifferent athlete" father, the report recommended that Rawlings produce advertisements that depicted fathers and sons in action, enjoying sports together.[25]

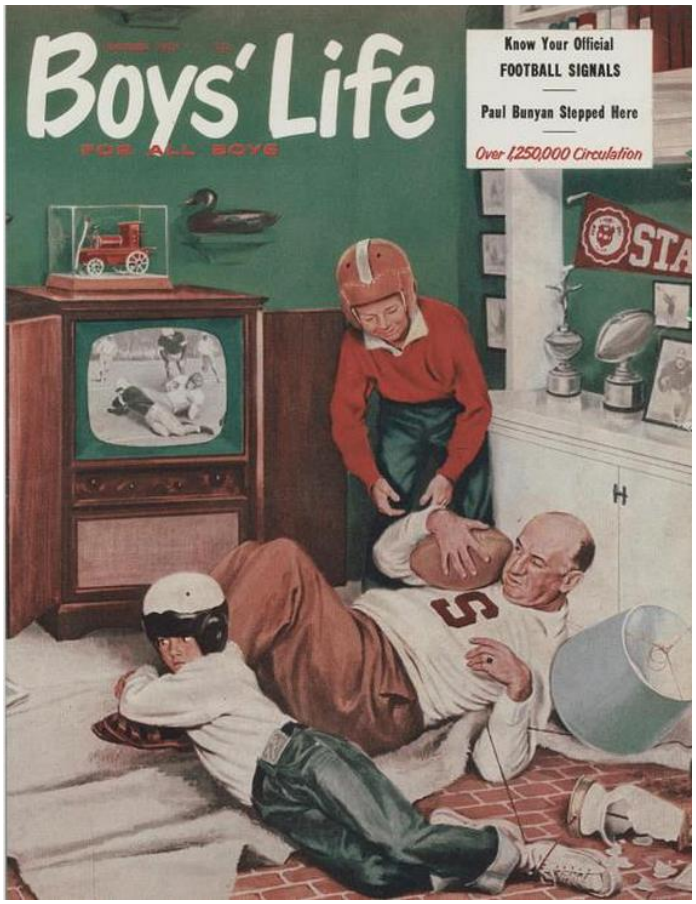
The October 1955 cover of *Boys' Life* magazine depicted this idealized relationship between fathers and sons playing football, with an added twist: the two sons and father on the cover were mirroring the positions of the professional football players seen on the television in their living room (see Figure 15). Interestingly, the two sons are wearing football headgear, but

[24] Institute for Motivational Research, Inc., *A Motivational Research Pilot Study of the Sales, Advertising, and Merchandising Problems of Rawlings Sporting Goods,* (Croton-on-Hudson, NY: Institute for Motivational Research, Inc., 1958).

[25] Institute for Motivational Research, Inc., *A Motivational Research Pilot Study.* The Institution for Motivational Research was an advertising consultancy firm founded by Ernest Dichter in 1946. In 1989, *New York Times* columnist Randall Rothenberg dubbed Dichter "the patron saint of motivational research." Randall Rothenberg, "Advertising; Capitalist Eye on the Soviet Consumer," *New York Times,* February 15, 1989. See also Barbara B. Stern, "The Importance of Being Ernest: Commemorating Dichter's Contribution to Advertising Research," *Journal of Advertising Research* 44;2 (June 2004): 165-169.

not their father, perhaps indicating how youth football was already associated with the organized version of the game that required protective equipment, while fathers were merely "roughhousing" with their sons. This imagery evident in both equipment advertisements and boys' magazines illustrated how male role models, from professional players to fathers, could and should promote the desirability of participation in youth football.

Figure 15. October 1955 Cover of Boys' Life Magazine



Yet mothers were not wholly absent from the youth sports advertising picture. They could be also vicarious athletes, the pilot study of Rawlings' marketing techniques noted, quoting one mother as saying, "Because I was so non-athletic I'd like them [my children] to do

it. I realize that I missed so much."[26] To acknowledge the interest of women in sports, and especially their role in purchasing equipment for sons or nephews as gifts, the report suggested that Rawlings stress the "whole family" appeal of youth sports, including mothers. Such advertising techniques reinforced popular beliefs about women's involvement in athletics, particularly tackle football, as being relegated to supplying their sons with equipment, rides to games, snacks, and other types of assistance from the sidelines. As discussed in chapter one, tackle football was portrayed as providing a role for each member of a heterosexual nuclear family that conformed to prevailing gender norms.

Advertisements also featured numerous claims about protective equipment being scientifically designed. Such claims were widely promulgated although no standards for football helmets or other protective football equipment existed before the 1970s, and protective football gear was not systematically evaluated for its effectiveness on the field. For example, in 1932, the Witchell Sheill Company advertised its "scientific football shoes" featuring "eleven points of superiority." In 1946, Brooks Shoe Manufacturing Company promoted its "scientifically constructed shoes" which would "positively" prevent football injuries.[27] In 1947, MacGregor Goldsmith described its new plastic football helmet as "the product of many years' painstaking research and experimentation." In 1950, Spalding advertised its "scientifically padded" helmet to provide the "utmost protection." In 1954, Rawlings asserted that its football helmet could

[26] Institute for Motivational Research, Inc., *A Motivational Research Pilot Study*, 24.

[27] Witchell Sheill Company Advertisement, "Witchell Scientific Football Shoes," *Proceedings of the Twelfth Annual Meeting of the American Football Coaches Association* (New York, New York: December 27-28, 1932), inside front cover; Brooks Shoe Manufacturing Company, "Brooks Safety Football Shoes," *Scholastic Coach* 15 (June 1946): 35.

dissipate "over 75% of sharp and sudden impact," providing "the Safest, Surest Head Protection ever developed for football."[28]

The basis of the claim that a Rawlings helmet could dissipate the impact of more than 75% of blows to players' heads is unclear. Yet many unsourced but scientific sounding statements persisted in decades of football equipment advertising. Such techniques were certainly not limited to sports equipment; claims promoting "scientific design," undocumented statistics about product effectiveness, or endorsements from experts were common features of many forms of American advertising in the twentieth century. Perhaps the most notorious examples of such claims come from the tobacco industry, where cigarette ads used images of physicians in claiming that their products would improve consumer health. While the tobacco industry exploited the positive place doctors held in American culture to market cigarettes, many football advertisements drew on American confidence in scientific research and laboratory design to promote their products. In making such claims, manufacturers invoked the prestige of scientific research as well as the stature of medical science to sell products that addressed a broad range of health and safety concerns outside the control of organized medicine.[29]

Unlike tobacco manufacturers, whose advertisements masked the risks of an unhealthy product associated with chronic disease, sporting goods manufacturers were promoting products intended to prevent injuries. Their advertisements thus implicitly, and often explicitly,

[28] Spalding Advertisement, "Here's the Helmet With the Big Safety Margin," *Scholastic Coach* 19 (March 1950): no page; Rawlings Advertisement, "Rawlings Triple Protection Head Cushion," *Scholastic Coach* 23 (May 1954): 3.

[29] Martha N. Gardner and Allan M. Brandt, "'The Doctors' Choice is America's Choice': The Physician in US Cigarette Advertisements, 1930-1953," *American Journal of Public Health* 96; 2 (2006): 222-232; Allan M. Brandt, *The Cigarette Century: The Rise, Fall, and Deadly Persistence of the Product That Defined America* (New York: Basic Books, 2007); Nancy Tomes, "Merchants of Health: Medicine and Consumer Culture in the United States, 1900-1940," *The Journal of American History* 88;2 (September 2001): 519-547. On the comparative politics of alcohol and tobacco marketing, see Pamela E. Pennock, *Advertising Sin and Sickness: The Politics of Alcohol and Tobacco Marketing, 1950-1960* (DeKalb: Northern Illinois University Press, 2007).

acknowledged that football could be dangerous activity. Advertisers of protective gear thus had to portray a nuanced portrait of the injury hazards associated with collision sports: they needed to depict youth football as sufficiently risky to require the purchase of extensive equipment, but not so risky as to be inappropriate for young children. Protective equipment ads communicated that technology and engineering were effective in mitigating risks, and often specifically emphasized manufacturers' alliances with coaches and doctors in working to protect children. For instance, a 1951 Rawlings ad for rubber-plastic football helmets highlighted that the headgear "complies fully with the safety recommendations of the American Football Coaches Association, doctors and trainers, *AND* is built with Rawlings [*sic*] half-century of "know-how."" Such claims indicated that a combination of medical, training, engineering and manufacturing expertise informing the design of protective gear afforded the greatest possible protection against football's risks.[30]

For their part, educators and sports administrators were divided on the ability of protective equipment to prevent youth injuries, and about the overall influence of sporting goods manufacturers on the sport's safety. In a 1954 round-up of debates over the value of athletic competition for children, the *Athletic Journal* noted that Delbert Oberteuffer, who chaired the Men's Department of Physical Education at The Ohio State University for 25 years, was highly critical of youth football. In particular, he was cynical about the role that sporting goods manufacturers had played in developing and promoting equipment aimed at youth, thereby contributing to the extension of football programs for younger players. He argued that "the American public should know there are really only two reasons why football has been pushed down into the lower grades where it does not belong! One, so that lower grade teams can be used

[30] Rawlings Advertisement, "Defense Against Injury!" *Athletic Journal* 31; 1 (1951): inside front cover.

as a farm system for high school and college varsities; and second, so that more expensive football gear can be sold by the commercial sport goods houses."[31]

In 1964, Clifford Fagan, the executive secretary of the National Federation of State High School Associations, refuted such complaints. Fagan argued that no group had made greater contributions toward the goal of eliminating sports-related injuries than equipment manufacturers. "They maintain and staff laboratories which devote their entire efforts to the development and construction of better equipment. Today's helmets, shoes, pants and pads are so much better in every respect that they cannot be compared with those used even a decade ago." Fagan appealed to the scientific design and technological advancements underlying equipment development as fundamental to increasing safety. He further contested the belief that low cost equipment could provide an adequate level of protection, emphasizing that such a misconception caused the most damage in youth sports. "You pay for what you get in athletic equipment, the same as you do for any other commodity . . . . It is false economy to attempt to buy protection on the basis of cost."[32]

As a leading sports administrator, Fagan promulgated the view that sporting goods advertisements communicated both implicitly and explicitly: safety could be bought, and protective equipment was fundamental to safety in tackle football. While acknowledging that the added cost of colors, stripes, or other decorations did not "add one iota" to the protection afforded by a piece of equipment, Fagan nonetheless contended that apart from such unnecessary

[31] "Athletic Competition for Children?" *Athletic Journal* 34;5 (1954): 18, 20, 55. For an overview of Dr. Oberteuffer's career, see "In Memoriam: Delbert Oberteuffer, 1901-1981," *Journal of Physical Education and Recreation* 52;7 (1981): 11-12.

[32] Clifford B. Fagan, "Misconceptions about Protective Equipment and Procedures in Athletics," *Journal of School Health* 34 (1964): 168-173.

frills, “the price determines the quality. Price determines the protection.” Fagan further warned against the practice of schools “handing down” equipment from one squad to another, typically from a varsity level team to a lower level team. He decried the practice of relying on gate receipt sales to fund equipment purchases. All players were entitled to the best equipment, regardless of their skill level or monies obtained through ticket admissions. If funds were insufficient, schools needed to use tax funds to obtain equipment for their athletes. If such a policy was unacceptable, schools ought to drop athletic programs that they could not adequately support.[33]

The sharp differences between Fagan and Oberteuffer’s attitudes toward the influence of sporting goods manufacturers on sports safety highlighted fundamental tensions in debates over protective equipment. Fagan praised manufacturers for developing and improving quality equipment that was essential to protecting players, and argued that schools were responsible for ensuring that all students had access to this equipment. On this view, the protective function of equipment was democratic and visible: all athletes deserved access to same protection, and investment in top quality equipment clearly signified a program’s commitment to safety. On the other hand, Oberteuffer portrayed protective equipment as a moneymaking scheme for sporting goods manufacturers in conflict with the best interests of children. To him, investment in equipment did not represent safety, but instead was a means by which business could promote and profit from the inappropriate extension of tackle football into younger age groups.

Both these perspectives on the role of sporting goods manufacturers would persist in debates over the safety of youth football. Yet the embrace of manufacturers’ contributions to enhancing safety equipment was far more widespread than skepticism about the influence of

[33] Clifford B. Fagan, “Misconceptions about Protective Equipment and Procedures in Athletics,” *Journal of School Health* 34 (1964): 168-173.

financial motives. Advertisements for equipment as well as substantial technological developments, notably the transition from leather to plastic helmets, contributed to a broad public understanding of protective equipment, particularly helmets, as essential to youth football safety.

Consequently, outfitting teams with protective gear remained an essential and substantial investment for virtually all high school football programs throughout the decades following World War II. For example, a 1982 *Baltimore Sun* article, "High school football is a costly sport," contrasted the "glitter" of Anne Arundel county's football program, including marching bands, stadium lights and filming school games, with Baltimore county's relative lack of frills. Both programs, however, had expended thousands of dollars on equipment; in 1981, Baltimore purchased $43,368 worth of new equipment, and spent $24,887 reconditioning nearly every football helmet. Mildred Murray, Baltimore County's coordinator of athletics, told the *Sun*, "One of the things we should never have to cut costs on is protective equipment. That is more important than anywhere else we can put our money."[34]

Financial Responsibility for Injuries

In addition to the expense of outfitting teams with equipment, participants in football programs also faced the potential for medical bills for injuries associated with the sport. In the early decades of the twentieth century, largely without insurance coverage, coaches, parents and families typically shouldered the burden of these expenses. In 1936, two university physical education faculty members sent out letters to 25 insurance companies and learned that only four

[34] Bill Glauber, "High School Football is a Costly Sport," *Baltimore Sun*; September 5, 1982. To put these dollar figures in context, in 1980, Baltimore school board financial officers stated that per year, about $2,500 was spent per pupil to educate students without special needs. Russ Robinson, "Special Education, Regular Schooling Chase Scarce Dollars," *Baltimore Sun*; November 23, 1980.

of these companies offered athletic insurance. While finding that athletic insurance was still limited and in its experimental stages, the authors concluded by recommending that state high school athletic associations and college conferences take full charge of athletic insurance for member schools. Not only was group insurance less expensive than individual insurance, they argued, but such an approach would eliminate the unfairness of donated services by medical professionals, and would substantially relieve parents and coaches of the financial burden of caring for sports-related injuries.[35]

This recommendation was consistent with a newly emerging trend toward insurance for high school athletes that was already underway. Beginning in the 1930s, a number of state athletic associations began developing athletic insurance programs to cover medical bills for injuries that students sustained while playing high school sports. Wisconsin and New York State were among the first states to develop such an athletic protection plan. In 1932, the *New York Herald Tribune* described Wisconsin's "unusual plan for providing financial aid to the injured" administered by the Wisconsin Interscholastic Athletic Association (WIAA) under the supervision of the State Insurance Commission. The commission had first approached insurance companies about the possibility of coverage for athletic injuries, but insurers were reluctant, believing the costs to be prohibitive. One company reportedly indicated that $14 per participant would be necessary to provide coverage of football alone.[36]

[35] Willard Walter Patty and Paris John Van Horn, "Athletic Insurance," *Athletic Journal* 16; 6 (February 1936): 38-41.

[36] Fred Wittner, "Wisconsin Insures 22,560 Boys Against School Sport Injuries," *New York Herald Tribune*; March 20, 1932. See also C. Frazier Damron, *Accident Surveillance Systems for Sports* (Washington, DC: American Alliance for Health, Physical Education, and Recreation, 1977) for a discussion of how such accident insurance plans as Wisconsin's provided data on injuries sustained by student athletes.

The WIAA thus developed its own athletic accident plan in the 1930-1931 school year, becoming the first state athletic association to inaugurate a self-administered insurance program. Wisconsin schools were offered the choice of two possible benefits plans, as well as two payment options: either purchasing blanket coverage based on student enrollment, or offering policies to individual student athletes at a higher cost per student. Notably, in either case the policy premium more than doubled if football coverage was included. In 1930-1931, the WIAA's benefit plan paid out $5,330 to cover 101 claims, including broken legs, arms and collarbones. In the 1967-1968 school year, the same program would pay 36,000 claims for a total of $875,000.[37]

In fall 1932, the New York State Health School Athletic Association Athletic similarly put an experimental athletic protection plan into effect. In the 1932 season, 66 schools registered for football, with the fund covering 1,255 student athletes. The program was a success and was thus extended to include other sports. As with Wisconsin's plan, New York's athletic protection program continued to grow in the ensuing decades. In the 1949-1950 academic year, the association's executive secretary reported that the athletic protection plan covered over 48,000 student athletes and had paid over $65,000 in claims.[38]

State athletic associations across the country began adopting similar programs in the 1930s and 1940s, often modelled after the plans developed by Wisconsin, New York or other "mother states." Texas, for instance, adopted a schedule of benefits similar to New York's

[37] Fred Wittner, "Wisconsin Insures 22,560 Boys Against School Sport Injuries," *New York Herald Tribune*; March 20, 1932; Michael Loren McCormick, "An Analysis of the Arizona High School Athletic Insurance Program," PhD Thesis (Bozeman, MT: Montana State University, 1970.)

[38] Robert Lynn Cox, *The New York State Public High School Athletic Association in Historical Perspective, 1922 to 1972* (D.P.E. Thesis, Springfield College, 1973).

protection plan in 1940. Often, schools contributed half the cost while parents of players put up the other half in individual payments. The risk of injury was typically considered to be higher in contact sports, such as tackle football or wrestling, as compared to non-contact sports, and fees were set accordingly. In 1945, for instance, New York charged $2.50 per player for football and wrestling, $2.00 for hockey, lacrosse and skiing, $1.00 for basketball and soccer, and $0.50 for track, tennis, baseball, golf and cross country.[39]

While state athletic protection programs became increasingly widespread, they did not necessarily cover all potential football-related injuries, and many programs continued to rely on "self-insurance" rather than purchasing a broad-based, external plan. A 1951 *Scholastic Coach* article warned coaches and administrators that interscholastic programs did not provide unlimited funds to defray the expenses of treating injuries, and that they could not rely on the goodwill, *pro bono* work of neighborhood doctors to make up any potential difference. The article advised coaches and athletic directors on factors to consider in choosing accident benefit options, such as non-profit versus commercial plans, and whether plans included coverage for extras such as transportation to and from out-of-town games. Furthermore, coaches were reminded that parents, especially parents in lower income brackets, were concerned about the economic risks of football. The fact that financial protection was available was frequently the key to boys' ability to obtain parental permission to participate, the article claimed. A coach who could clearly inform parents what insurance plans covered "is sometimes able to add extremely valuable manpower to his varsities and various intramural sports."[40]

[39] Paul W. Kearney, "What Price Football?" *The Rotarian* (October 1946): 37-38.

[40] Donald R. MacArthur, "Accident Insurance in Sports," *Scholastic Coach* 20;6 (February 1951): 34-36.

Both the cost of insurance and the newly available documentation of injuries from insurance claims focused attention on safety concerns and injury prevention. Consequently, the adoption of such insurance plans often prompted coaches and administrators to re-evaluate safety strategies in order to most effectively reduce injuries and expenses. After Texas's Interscholastic League adopted its benefits plan, the Texas High School Football Coaches Association met over the summer of 1940 to discuss the causes of injuries and possible prevention strategies. Their recommendations were consistent with the longstanding emphasis on adult supervision discussed in chapter two. They urged complete medical examinations for all players, three weeks' of conditioning before boys were permitted to play in games, enhancing the availability of first aid, ensuring proper equipment, scheduling interschool contests with institutions of a similar size to avoid lopsided matches, and an emphasis on "football fundamentals" over the course of the season.[41]

Although insurance claims forms were designed to collect data for the primary purpose of providing insurance coverage, such data also provided some of the earliest and most extensive available information on causes and rates of morbidity and mortality.[42] This included data on sports-related injuries among large populations of Americans. Indeed, in the absence of large-scale epidemiological studies, insurance companies represented one of the only available sources of such data. For example, chapter two described how, despite the limited nature of this data, in 1948 the NFHS published simple injury counts derived from the Security Life and Accident Co.

[41] R.J. Kidd, "Athletic Benefit Plan is Adopted," *Interscholastic Leaguer* 24; 1 (September 1940): 1, 4.

[42] For example, statistician Frederick L. Hoffman of the Prudential Life Insurance Company used the company's large data sets to conduct wide-ranging research on a variety of health and safety issues, such as workplace hazards, cancer and suicide. See Megan Wolff, "The Money Value of Risk: Life Insurance and the Transformation of American Public Health, 1896-1930," (PhD diss., Columbia University, 2011).

of Denver, Colorado to inform its membership of the percentage of football injuries sustained according to age.[43]

Once state athletic associations developed their own athletic benefit plans, school administrators were able to use this information to compare the rates of injuries among the different sports offered through schools. For instance, New York State's Education Department, in collaboration with an education professor at New York University, used data from New York State's Athletic Protection Plan to study accidents among schoolboys. From February 1958 to January 1959 when schools were in session, they collected data from 96 secondary schools in New York State, excluding New York City. The study found that interscholastic athletic competition accounted for two-thirds of all accidents. Of the sports included in the study, tackle football represented both the highest gross number of accidents as well as the highest incidence of injury (see Figure 16).[44]

[43] C. Frazier Damron, "Accident Surveillance Systems for Sports," (Washington, DC: American Alliance for Health, Physical Education, and Recreation, 1977).

[44] New York State Bureau of Physical Education, *Safety in Physical Education for Junior and Senior High School Boys* (Albany, New York: State Education Department, February 1963), 1.

Figure 16. Top 5 Activities by Gross Accidents, New York State, 1958-1959[45]

Activity	Number of Accidents	Percentage of Total Accidents	Exposures	Incidence Per 1,000 Exposures
Football	542	38.5	258,453	2.1
Basketball	224	15.9	515,300	0.43
Wrestling	108	7.7	216,567	0.5
Soccer	85	6.0	175,975	0.48
Track and Field	79	5.6	310,986	0.25

Examining the description of the causes of injury identified in insurance claims, the researchers found that "tackling in football was the skill or activity most frequently engaged in at the time of the accident." Football injuries also represented the highest amount of claims paid, accounting for over half of all interscholastic athletic claims paid in 1961-1962 ($95,360.98 out of $151,718.58 in 1961-1962). Given that football was clearly the most hazardous sport based on insurance claims data, the study concluded by questioning whether football should continue to be considered "a desirable educational offering in the secondary school athletic program." The New York State Public High School Athletic Association did not drop football in response to this study, but initiated a voluntary injury prevention and conditioning program in August 1963, and began to conduct its own studies of injuries, some of which are described in chapter 3.[46]

[45] The 96 New York State schools from which these data were derived were selected by a proportional, stratified random sampling technique. An exposure was defined as "participation by a boy in a class or extraclass activity during a school day." New York State Bureau of Physical Education, *Safety in Physical Education for Junior and Senior High School Boys* (Albany, New York: State Education Department, February 1963.)

[46] *Ibid.*

Yet the cost of insurance for youth football continued to rise, partially due to an increase in cost for medical treatment. In the Phoenix Union High School System in Arizona, for example, the cost for athletic insurance including football was $17 per boy in the fall of 1962. By the fall of 1968, the cost had risen to $25 per boy, a price far above the pace of inflation (inflation alone would have placed the cost of insurance at $19.59 in fall 1968). Coaches complained that football insurance was becoming prohibitive in cost, a complaint that would persist in the ensuing decades and reach a particular moment of perceived crisis in the 1980s. Furthermore, the source and level of coverage was far from standardized across schools. A 1970 analysis of insurance in Arizona high schools found that fewer than half of high school participants were covered by the insurance program sponsored by the Arizona Interscholastic Association.[47]

Despite these substantial challenges, large insurance programs offered families and schools some degree of financial protection against the risk of football injuries, offered a source of large scale data on injury rates, even if limited by the design of claims forms, and further motivated coaches and administrators to consider how to prevent injuries and minimize costs. Athletic insurance coverage policies were also intricately related to product liability law, the area of tort law that determines legal responsibility for injuries. As American law scholar Kenneth Abraham has argued, the tort liability and insurance systems constantly interact "like the two suns in a binary star, dependent on each other for their position in our legal system." Understanding how product liability law changed in the second half of the twentieth century is

[47] Michael Loren McCormick, "An Analysis of the Arizona High School Athletic Insurance Program," PhD Thesis (Bozeman, MT: Montana State University, 1970); U.S. Bureau of Labor Statistics, "CPI Inflation Calculator," accessed December 7, 2015 at http://www.bls.gov/data/inflation_calculator.htm

therefore essential to understanding how insurance companies, school districts, and sporting goods manufacturers all sought to minimize their financial responsibility for injury.[48]

Legal Responsibility for Injuries

Sports injury lawsuits had not always been a common occurrence for potentially vulnerable parties such as coaches, school districts, and sporting goods manufacturers. School boards, for instance, typically protected themselves legally by requiring parents of prospective student football players to sign release forms. For example, in the early 1960s, the Houston Independent School District's approval slip for participation in competitive sports asked parents to sign "with the distinct understanding that the Houston Board of Education and the employees of the Houston Board of Education assume no responsibility for any accident or injury as a result thereof." Furthermore, in addition to such release forms, courts typically applied a legal doctrine known as "assumption of risk," which held that athletes playing competitive sports knowingly and voluntarily assumed the risks of such sports by participating, and could not recover from sports-related harms.[49]

As a result, the limited lawsuits resulting from sports injuries prior to the mid-1960s typically found plaintiffs responsible for assuming the risks of injury, as exemplified by the case of *Vendrell v. School District No. 26C, Malheur County*. In this case, Louis Vendrell, a 15 year old high school football player at the time of injury, had suffered a broken neck resulting in

[48] Kenneth S. Abraham, *The Liability Century* (Cambridge, MA: Harvard University Press, 2008), 1. See also Peter Asch, *Consumer Safety Regulation: Putting a Price on Life and Limb* (New York: Oxford University Press, 1988).

[49] The Houston Independent School District also required parents to sign a statement that they would agree to use their own family health and accident insurance to cover the expenses of any medical or hospital bills associated with interscholastic sports. A. Ross Davis, "The Athletic Toll," *Texas Journal of Medicine* 60 (1964): 661-664. On the assumption of risk, see the *Restatement of Torts (Second) section 496A*; Alexander J. Drago, "Assumption of Risk: An Age-Old Defense Still Viable in Sports and Recreation," *Fordham Intellectual Property, Media and Entertainment Law Journal* 12;2 (2002): 583-608.

permanent paraplegia after being tackled by two members of the opposing football team. In his testimony, he recalled that after he saw the other team's players in front of him, "I knew I couldn't go any further so I put my head down and just ran into em [*sic*] and that is when I heard my neck snap." In his suit against the school district, Vendrell claimed that he had not received "proper or sufficient instructions" in the techniques of football, nor had he been provided "the necessary and proper protective equipment."[50]

Vendrell's case reached the Supreme Court of Oregon, but ultimately the court did not find Vendrell's football coaches negligent, nor the school district responsible for his injury. In its reasoning, the court explained that no prospective football players, including children, needed to be warned that they might sustain an injury. While not explicitly characterizing permanent paralysis itself as an inherent part of the game, the court nonetheless indicated that coaches did not have a duty to warn athletes of potential injuries, because no warning should be necessary:

> Body contact, bruises, and clashes are inherent in the game. There is no other way to play it. No prospective player need be told that a participant in the game of football may sustain injury. That fact is self-evident. It draws to the game the manly; they accept its risks, blows, clashes and injuries without whimper. No one expects a football coach to extract from the game the body clashes that cause bruises, jolts and hard falls. To remove them would end the sport.[51]

The court's reasoning reframed boys as adults; indeed, the court's very language suggested that the essence of football was to attract "the manly" and transform boys into men. The risks of football, and the willingness to sustain these injuries "without whimper," were treated as inherent components of this vision of masculinity. The court further dispensed with

[50] Patrick K. Thornton, Walter T. Champion, Jr., Lawrence S. Ruddell, *Sports Ethics for Sports Management Professionals* (Sudbury, MA: Jones & Bartlett Learning, 2012): 136.

[51] *Vendrell v. School District No. 26C, Malheur County*, 376 P.2d 406, 412-13 (Or. 1962). See also Eric F. Quandt, Matthew J. Mitten, and John S. Black, "Legal Liability in Covering Athletic Events," *Sports Health* 1;1 (2009): 84-90.

Vendrell's argument that his coaches had not taught him that he should not use his head as a battering ram, stating that "one of the first lessons that an infant learns when he begins to toddle about on his feet is not to permit his head to collide with anything." Vendrell was thus found to have assumed all the risks of tackling. These risks were so obvious, the court indicated, that even infants ought to be aware of the potential dangers of subjecting one's head to blows.

Several years later, the Supreme Court of Oregon's reasoning was quite similar in ruling against the plaintiff of another football injury case. In 1972, the court heard the case of Robert Whipple, a 15 year old boy who had played with the Salvation Army Boys Club youth program in Medford, Oregon. Whipple sustained a knee injury after being tackled immediately after he had jumped and caught a ball; his allegations against the Salvation Army included inadequate supervision and allowing untrained boys at an "excessively early age" to participate in tackle football. The court stated that it held "as a matter of law, that a 15-year-old boy, without evidence of mental deficiency or untoward seclusion from life's experiences common to boys of that age, sufficiently appreciates the dangers inherent in the game of football so that he assumes the risk thereof when he plays."[52]

Such rulings meant that even catastrophically injured youth athletes were unlikely to find success in the courtroom. As lawyer Samuel Langerman observed in 1964, "Litigation seldom arises from a sports injury." He explained that many schools and institutions involved were exempted from tort liability under legal doctrines of sovereign immunity or charitable immunity. These doctrines exempted from private suit most public schools, universities, non-profit groups (such as the YMCA) and other types of organizations that typically sponsored youth athletic

[52] *Whipple v. Salvation Army*, 495 P.2d 739 (Oregon 1972). For a brief discussion of this case, see Herbert Thomas Appenzeller, *An Analysis of Court Decisions Involving Injuries to Participants and Spectators in Youth Sport Activities* (Greensboro, NC: The University of North Carolina at Greensboro, 1988): 37-38.

programs. Beyond the legal challenges, many injured players or their families had a "natural hesitancy" to sue their own coaches or schools. Given the reluctance of many injured parties to bring suit and the obstacles to succeeding if they did, sports injury lawsuits were relatively rare.[53]

Yet just a decade later, Langerman, a law partner of the law firm Langerman and Begam and noted for his experience in handling sports injury litigation, would revise this opinion. In 1977, writing for *Trial* magazine, Langerman and his colleague Noel Fidel argued that new legal trends were clearing the traditional roadblocks to such lawsuits. As a result, Langerman's 1964 observation about the rarity of sports injury litigation was no longer appropriate.[54] The move toward strict liability, as discussed in chapter 3, was one of the legal developments that made school districts and sporting manufacturers increasingly vulnerable to product liability lawsuits after 1965 and into the 1970s. In 1977, Langerman and Field further argued that the duty to warn players in the products liability field established basic legal principles that were equally applicable in the sports arena. They described the ways this duty applied to coaches, teachers, and athletic program managers, stating:

> Does the football player who makes a head-down charge with an ill-fitting helmet, or the trampolinist who works out with a headache or cold, comprehend and appreciate the magnitude of the risk of a lifetime of quadriplegia? Not unless his coach has met his educational responsibilities.[55]

In contrast to the 1962 court ruling in the *Vendrell* case, then, Langerman and Field argued that courts might no longer consider the risks of permanent paralysis to be obvious to

[53] Samuel Langerman, "Contact Sports Injury Cases," *American Jurisprudence Trials* 7 (1964): 213-278. For more on the relevance of charitable immunity and sovereign immunity to American sports law, see Chapter 4, "Application of Tort Law to Sports," in Glenn M. Wong, *Essentials of Sports Law*, 4th edition (Santa Barbara, CA: ABC-CLIO, 2010), 105-155.

[54] Samuel Langerman and Noel Fidel, "Responsibility is Also Part of the Game," *Trial* 13;1 (1977): 22-25.

[55] *Ibid*.

prospective football players. Adult coaches and trainers were increasingly treated as having a "duty to warn" prospective players, especially youth players, of the potentially devastating risks. This transition toward a coach's duty to warn players about the risks of athletic participation was connected to a broader rejection of assumption of risk in occupational as well as recreational settings. By mid-twentieth century, many industry leaders acknowledged that they had a responsibility to inform their workers of the dangers associated with their work, and that strategies such as the use of warning labels could protect industry from lawsuits in the event of harm.[56] Administrators of youth football programs similarly increasingly saw themselves as vulnerable to such lawsuits. A 1974 reference manual for Pop Warner coaches warned that even volunteer coaches might be "held liable for physical harm incurred by players in their charge" if proven negligent.[57]

The landmark 1982 case of *Thompson v. Seattle Public School District* indicated this changing legal landscape. In this unpublished decision, a King County jury in Seattle, Washington awarded Christopher Thompson $6.3 million for a 1975 high school football injury that had left him quadriplegic. Thompson had argued that his coach had not warned him of the dangers of putting his head down while tackling. Meanwhile, the school district had sought to characterize the injury as a freak accident, arguing that students must assume the risk when

[56] David Rosner and Gerald Markowitz, "'Educate the Individual... to a Sane Appreciation of the Risk': A History of Industry's Responsibility to Warn of Job Dangers Before the Occupational Safety and Health Administration," *American Journal of Public Health* 106;1 (2016): 28-35. For a history of how new financial practices in the nineteenth and twentieth century United States converted various hazards into "risk-taking" as an economic phenomenon, see Jonathan Levy, *Freaks of Fortune: The Emerging World of Capitalism and Risk in America* (Cambridge, MA: Harvard University Press, 2012).

[57] The Athletic Institute, *Coaching Pop Warner: A Reference Manual to the Basics of the Game of Football for Pop Warner Coaches* (Chicago: The Athletic Institute, 1974), 12. On the distinction between the duty to warn and the duty to design a safe product, see Aaron Gershonowitz, "The Strict Liability Duty to Warn," *Washington and Lee Law Review* 44;1 (1987): 71-107.

choosing to play football. Following the verdict, the school district's athletic supervisor warned that the case could potentially affect athletic programs nationwide. He stated, "if we're doing it wrong, all districts in the country are doing it wrong."[58]

In 1983, Samuel H. Adams and Mary Ann Bayless, professors of physical education at Washington State University, pointed to *Thompson v. Seattle Public School District* as a sentinel case. They argued that the court appeared to be "placing all responsibility for the prevention of injuries and therefore, blame for injuries, on the coach or supervisor of an activity. . . . The fact that a participant may be injured in a sport is no longer considered self-evident." In shifting the responsibility for the inherent risks of football and other sports from players to coaches and administrators, this precedent setting case weakened the longstanding "assumption of risk" doctrine. Courts were increasingly limiting the amount of risk that a sports participant should be expected to assume, particularly when athletes were young and had less extensive athletic experience prior to their injury. A 1986 article in *Athletic Business* claimed that with the *Thompson* decision, the concepts of "failure to warn" and "failure to instruct" had become "enshrined in the legal lexicon, adding new definitions to the definition of negligence."[59]

Following the *Thompson* case, the *Los Angeles Times* reported that the Seattle school board considered a resolution suggesting the elimination of football. The injured student had been awarded over $6 million in damages, while the district had been insured for $5.5 million.

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[58] Samuel H. Adams and Mary Ann Bayless, "Helping Your Coaches Understand Their Role in Preventing Injuries," *Athletic Purchasing & Facilities* (January 1983): 18-22; "Football Player Wins $6 Million Suit," *Chicago Tribune*; February 13, 1982; Byron Rosen, "Jury in Seattle Trims Award to $6,316,000," *Washington Post*; February 13, 1982; Sharon Huddleston, "The Coach's Legal Duty to Properly Instruct and to Warn Athletes of the Inherent Dangers in Sport," in *Sports and the Law: Major Legal Cases*, ed. Charles E. Quirk (New York: Garland Publishing, Inc., 1996): 14-17.

[59] Herbert Thomas Appenzeller, *An Analysis of Court Decisions Involving Injuries to Participants and Spectators in Youth Sport Activities* (Greensboro, NC: The University of North Carolina at Greensboro, 1988): 37-38; "Protect the Children, Protect Your Program," *Athletic Business* (March 1986): 12-18.

Ultimately, the Seattle School District developed a lengthy list of recommendations, including that students and their parents be required to sign an assumption of risk form, that coaches be required to have CPR training, and that coaches inform participants of the types of catastrophic injuries that could occur and how to avoid them.[60]

Sports programs across the country similarly responded to this decision and related legal concerns by reading additional warnings to players and placing warnings on helmets. In 1986, the Football Rules Committee of the National Federation of State High School Associations stated that beginning the following season, "each player's helmet must have a visible exterior warning label regarding the risk of injury. Although most schools complied previously, the label will now be required."[61] Dr. Thomas Appenzeller, a professor of sport management who was a high school football coach in North Carolina in the 1980s, recalled,

> in the mid-season my principal called me in there. He said "We just got these stickers and you've got to put one on every helmet and you've got to read this statement before every football game." And it was a warning and it resulted from a lawsuit out in Seattle, Washington where a high-school player had broken his neck and had sued the coaches because they didn't warn him about the dangers of using his head to lead with a—I think he was making a tackle.
>
> And the helmet, they actually sent us a little sticker. I remember putting them on one night. Me and a couple assistant coaches put stickers on there. I remember for the next game I actually read it and before every game that year I read it. Then after that we just had to read it before the season started as a warning that you weren't supposed to use your

[60] Tracy Dodds, "Helmet Makers Look for Some Protection," *Los Angeles Times*; June 13, 1982; Samuel H. Adams and Mary Ann Bayless, "Helping Your Coaches Understand Their Role in Preventing Injuries," *Athletic Purchasing & Facilities* (January 1983): 18-22.

[61] "Football Rule Changes Announced for '86 Season," *The Kentucky High School Athlete* (February 1986): 4. Accessed December 3, 2015 at Encompass, A Digital Archive of the Research, Creative Works and History of Eastern Kentucky University at http://encompass.eku.edu/. See also National Federation of State High School Associations, "NFHS Rules Changes Affecting Risk (1982–2011)," available at http://www.nfhs.org; accessed December 31, 2011.

> head to ram or to lead with it and that there was a danger of serious injury with head and neck injuries.[62]

In addition to such "duty to warn" lawsuits against school districts and coaches, sporting goods manufacturers were also increasingly vulnerable to lawsuits related to football injuries in the 1970s. Plaintiffs contended that helmet makers also had a duty to warn prospective consumers, specifically that consumers should be informed that helmets could not protect against particular head and brain injuries. For instance, in 1974, a Texas high school football quarterback named Mark Daniels collided with a teammate, sustaining a head injury that resulted in an indentation in his helmet from the force of the impact. Daniels was subsequently diagnosed with a subdural hematoma that left him with severe and permanent brain damage, and sued Rawlings Sporting Goods for damages. The 20th Judicial District Court of Robertson County, Texas awarded Daniels a $1.5 million judgment, a decision which Rawlings unsuccessfully appealed. In upholding this ruling, the court of appeals of Texas's 10th district explained that while all evidence suggested that the primary purpose of a helmet was to protect its wearer against head and brain injuries, nonetheless:

> Defendant [Rawlings] admitted that it never made any attempt to warn potential users of the limitations of its helmets; that it had known for a long time that helmets will not protect against brain injuries; that it made the "conscious decision" not to tell people the helmet would not protect against subdural hematomas; that the company "elected" not to warn that the helmets would not protect against head injuries, in spite of the knowledge that laymen believe that the purpose of the helmet is to protect the head.[63]

In addition to arguing that manufacturers needed to warn of the inherent limitations of helmets, plaintiffs also contended that manufacturers should be held liable for defective helmet

[62] Thomas Appenzeller, interviewed by Kathleen Bachynski, December 14, 2014, transcript.

[63] *Rawlings Sporting Goods Co., Inc. v. Daniels*, 619 S.W.2d 435 (Tex.Civ.App.1981); William L. Siler, "In Jeopardy: Football Helmet Manufacturers and Wearers," in *Sports and the Law: Major Legal Cases*, ed. Charles E. Quirk (New York: Garland Publishing, Inc., 1996): 8-10.

designs. In 1975, the successful suit of Greg Stead against Riddell, Inc., one of the most prominent football helmet manufacturers, was based on the argument that the improper design of the Riddell helmet had contributed to Stead's catastrophic injury. More broadly, *Stead v. Riddell* emerged as a landmark case to which both manufacturers and lawyers would point as representing trends in product liability law. In numerous settings, from congressional hearings to medical journals, these groups deployed *Stead v. Riddell* to advance their preferred framing of the legal responsibility for youth football injuries.

Stead, a high school football player at the time of his injury, had been paralyzed from the neck down due to a neck injury he sustained on the opening kickoff of a high school football game on September 30, 1971. Stead's attorney, Carl Rentz, argued that after a player on the opposing team kicked Stead, causing Stead's head to jerk backward, his client's neck was broken between the fourth and fifth vertebrae by the unpadded back of the Riddell helmet he was wearing. By the time of the trial, Stead was 20 years old, and sat through the five-week proceedings while seated in a wheelchair. A jury awarded Stead $5.3 million in damages against Riddell, Inc.[64]

Sporting goods manufacturers and their lawyers depicted *Stead v. Riddell* as heralding an impending wave of lawsuits threatening their ability to do business. Riddell lawyer Richard Lester would later characterize this 1975 case as the beginning of an "onslaught" of damage suits filed against helmet manufacturers. Although the multi-million dollar award was unusual, *Stead v. Riddell* was certainly consistent with a broader legal trend toward courts increasingly imposing liability on manufacturers for defective product design. Examining products liability law through

[64] "Helmet Maker Must Pay $5.3m to Injured Player," *Boston Globe*; December 12, 1975; David Dupree, "Sports Equipment on Trial," *Washington Post*; December 31, 1977, p. D1.

1990, two legal scholars remarked that beginning in the mid-1970s through the early 1980s, courts "seemed to compete with each other to see who could make it easiest for plaintiffs to reach juries with claims of defective product design."[65]

Manufacturers turned to *Stead v. Riddell* as the perfect example of litigation run amok in their policy advocacy efforts to minimize their susceptibility to such suits. Notably, in 1976, the SGMA formed the Multi Association Action Committee (MAAC) to address product liability. The committee included 119 leaders from a range of industries beyond sporting goods manufacturing, such as aircraft, cast metals, recreation vehicles, and small farm implements. The stated goals of MAAC included: "to call attention to the plight of industry manufacturers in product liability suits and costs for defense" and "to notify Americans that we have unleashed a wave of unfounded suits and attendant unprecedented awards that guarantee inflation for the next decade" (underline in original).[66]

At MAAC's SMGA-sponsored conference on liability reform in 1976, Harold J. Bruns, the president of SGMA, referenced the Stead case in his statement on product liability. "Did you know that a football helmet manufacturer lost a $5.3 million lawsuit to an injured player while the defendant's attorney contended there was no proof that the injured party was even wearing the defendant's helmet?" Bruns asked. He further alluded to Stead's presence in the courtroom throughout the trial as unjustly swaying the jurors against the manufacturers, stating that

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[65] "Sports People; Damaging Lawsuits," *New York Times*; December 9, 1984. Accessed November 19, 2015 at http://www.nytimes.com/1984/12/09/sports/sports-people-damaging-lawsuits.html. For more on the trend in products liability cases beginning in the mid-1970s toward imposing liability for harm on manufacturers, see James A. Henderson, Jr. and Theodore Eisenberg, "The Quiet Revolution in Products Liability: An Empirical Study of Legal Change," *UCLA Law Review* 37 (1990): 479-553.

[66] *Proceedings of the MAAC Liability Reform Conference*, Washington, D.C. Sept. 7-8, 1976. Sponsored by the Sporting Goods Manufacturers Association; publisher not identified. MAAC was later renamed Product Liability Sports (PLS). See Sporting Goods Manufacturers Association, "A Commemorative Report," 11.

although jurors were charged to render decisions based on fact and fairness, they "instead must view a paraplegic in a wheelchair which conjurs [*sic*] irresistible emotion and remorse." Consequently, "a sports equipment manufacturer is made to pay a fortune out of sympathy rather than neglect." Depicting such cases as frivolous and opportunistic, Bruns suggested that justice was being "outwitted by lucid trial lawyers" who were requiring manufacturers to pay extravagant sums as "a sacrifice to ease the social conscience." Bruns hastened to clarify that he was certainly not blaming "the paraplegic doomed to a life of thinking," nor the judges and juries doing what they believed to be right. Instead, he contended that the legal system was at fault.[67]

Bruns thus urged reform of the tort system as the ultimate solution. In 1977, he explained to the *Chicago Tribune* that the SGMA's goal was to return the law of the land "back to where it was prior to 1964, when the doctrine of strict liability was adopted." In the testimony he submitted to the U.S. Senate's Select Committee on Small Business, Bruns laid out specific actions and reforms the SGMA sought: public awareness of the problem, statute of limitations on manufactured products, limitation of awards, plaintiff to assume responsibility for all defendant's costs related to unfounded suits, limitation on contingency fees, state of the art at time of manufacture as a defense, and elimination of punitive damages. He threatened that if the product liability crisis were not abated, "next year may well be the last year for the Super Bowl." This notion, that the very existence of football as a fundamental element of American life was under threat from product liability lawsuits, would persist in policy arguments made by the SGMA through the 1980s and early 1990s.[68]

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[67] Howard J. Bruns, "Statement on Product Liability," *Proceedings of the MAAC Liability Reform Conference,* (Washington, D.C.: Sept. 7-8, 1976): 95-97.

[68] Howard J. Bruns, "Testimony for Select Committee on Small Business, U.S. Senate," *Proceedings of the MAAC Liability Reform Conference,* (Washington, D.C.: Sept. 7-8, 1976): 20-23, conference sponsored by the Sporting

The vision of lawsuits putting an end to football was also repeatedly disseminated at medical conferences and in medical journals aimed at sports medicine specialists. "The whole existence of contact sports as we know them is being threatened," said one speaker at the 1977 annual meeting of the American College of Sports Medicine. A 1985 *Physician and Sportsmedicine* article promulgated the view that football helmet manufacturers had made football helmets safer, and in "reward," they had become subjected to increasing legal liability for football injuries. This analysis highlighted the toll such lawsuits were taking on manufacturers, casting the sporting goods manufacturers as victims of multimillion dollar lawsuits. A 1987 article in the *Physician and Sportsmedicine*, whose very title signaled the dangers to "the American way of sport," opened with the image of a high school football game under way in "Anytown, United States." The author, a contributing editor of the journal, suggested that this scene, "as American as apple pie," might be in danger of disappearing, and cited sporting goods manufacturers as a source of the concern. Sports medicine physicians, whose work was fundamentally tied to contact sports, were thus encouraged to share the SGMA's framing of product liability law as posing an existential threat to sports.[69]

The example of *Stead v. Riddell*, as well as liability concerns faced by sporting goods manufacturers more generally, would also feature prominently in debates over federal legislation to address the issue. In April 1976, President Gerald Ford established a Federal Interagency Task

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Goods Manufacturers Association; publisher not identified; John Husar, "Liability Suits Threaten Helmet Makers," *Chicago Tribune*: June 5, 1977. Bruns would repeatedly return to the claim that football and competitive sports generally were under threat of extinction. In 1982, he told the *Journal of Commerce*, "If we don't get tort reform, we are going to see the elimination of football and other sports activities." Susan Fass, "Helmet Liability Costs Threaten Football's Future," *The Journal of Commerce*; November 3, 1982.

[69] John Husar, "Liability Suits Threaten Helmet Makers," *Chicago Tribune*: June 5, 1977; Jean Tally, "Reward for Increasing Football Helmet Safety? Legal Hassles," *The Physician and Sportsmedicine* 13; 2 (1985): 161-168; Adele Lubell, "Insurance, Liability, and the American Way of Sport," *The Physician and Sportsmedicine* 15; 9 (1987): 192-200.

Force on Product Liability to study product liability law and ways to stabilize recoveries and insurance premiums. The task force continued its work under President Carter and ultimately recommended the drafting of a model uniform product liability law for use by all states. The task force also recommended the enactment of federal legislation to allow small businesses to form self-insurance pools; such legislation would ultimately become law in 1981 as the Product Liability Risk Retention Act.[70]

But before the passage of this act, in 1977, the U.S. Senate held hearings to consider the National Product Liability Insurance Act. This earlier version of product liability legislation, proposed by senators John C. Culver (D-Iowa) and Gaylord Nelson (D-Wisconsin), would have established a national product liability insurance administration and arbitration program, as well as a product liability insurance pool to increase the availability of insurance coverage. The perspective of manufacturers on *Stead v. Riddell* featured in these hearings in the form of letters submitted by William C. Merritt, who defended Riddell against the lawsuits brought by Stead. Merritt's arguments exemplify the ways that sports manufacturers sought to frame the issue of product liability lawsuits and to deflect responsibility for football injuries away from themselves.[71]

Merritt drew on social prejudices to argue that the Florida jury that had ruled against Riddell was largely composed of "middle class people of not high intelligence." He noted the inclusion of a black maid, the wife of a civil servant, an Italian terrazzo & tile man, a Cuban postal clerk, and a retired man on the jury. Not only did the judge ask questions during the *voir dire* to play

[70] Terry Morehead Dworkin, "Product Liability Reform and the Model Uniform Product Liability Act," *Nebraska Law Review* 60;1 (1981): 50-80; Victor E. Schwartz and Mark A. Behrens, "The Road to Federal Product Liability Reform," *Maryland Law Review* 55; 4 (1996): 1363-1383.

[71] "The New Insurance Crisis," *Washington Post*; February 24, 1977.

upon the sympathies of these purportedly simple minded jurors, Merritt suggested, but the judge also failed to understand the suspension system of Riddell's helmet and its complete irrelevance to a neck injury case. He emphasized the testimony of the assistant football coach at the high school where Greg Stead had played; the coach had stated that he had specifically and repeatedly instructed Stead that "you stick a man with your helmet and your [*sic*] going to break your neck."[72]

Merritt further questioned the credibility of Dr. Harold Fenner, who had been brought in as a witness for the plaintiff and who had testified that the ability of the helmet to attenuate the impact of blows to the head could contribute to the plaintiff's neck injury. Merritt repeatedly emphasized that Dr. Fenner was not board certified as an orthopedic surgeon, and that other experts disagreed with Fenner's assessment. "Medical research has shown that the helmet has no relationship to the injury," Merritt would continue to insist in the following years. Lawyers and the sporting goods manufacturers they represented thus argued that well-meaning but relatively uneducated jurors were unduly swayed by the sympathy-inducing presence of catastrophically injured athletes; that these athletes had been sufficiently warned by their own coaches of the risk of injury; and that medical testimony about the possible role of the helmet was uncertain and suspect.[73]

[72] Letter from William C. Merritt to Mr. Cameron, "Re: *Stead* v. *Riddell, Inc.*, Claim No.: 010787 267 71 55, D/A: September 30, 1971, our file No.: 75-252 WCM," in *Product Liability Insurance Hearings Before the Subcommittee for Consumers of the Committee on Commerce, Science, and Transportation* (United States Senate, Ninety-fifth Congress, first session, on S. 403, April 27, 28, and 29, 1977): 406-413.

[73] Letter from William C. Merritt to Mr. Cameron, "Re: *Stead* v. *Riddell, Inc*.,"1977; Patricia Elich, "Butting Heads: Miami Lawyer Carl Rentz Tackles the Country's Biggest Helmet Manufacturer," *The Sun-Sentinel*; February 16, 1987; accessed November 30, 2015 at http://articles.sun-sentinel.com/1987-02-16/news/8701100894_1_riddell-helmet-miami-lawyer

Beginning in the 1970s, a number of manufacturers ceased making football helmets, and remaining manufacturers claimed that helmet lawsuits were driving them out of the business. In 1970, there were eighteen manufacturers of football helmets in the United States; by 1994, there were only two. In 1977, Frank Gordon, the president of Riddell, told the *Chicago Tribune* that manufacturers were toying, half seriously, with the notion of "going on strike" and not producing helmets for a year or two, to draw public attention to the legal crisis. While such a strategy was not particularly realistic, suggesting the threat of a football helmet manufacturing strike to a major American newspaper was in itself a means of raising public concern. A 1979 *Los Angeles Times* article claimed that "making football helmets can be as potentially risky as playing the game without any."[74]

While manufacturers blamed product liability laws, consumer groups including the National Insurance Consumer Organization, the Consumer Federation of America, and Public Citizen contended that insurers were charging exorbitant premiums to compensate for poor risk judgments in previous years. Robert Hunter, the president of the National Insurance Consumer Organization, told the *New York Times* that while the courts had expanded the concept of liability, that had nothing to do with insurance rates. "The insurance problem shouldn't be used as an excuse to take away victims' rights to sue."[75]

Despite—or perhaps thanks to— the emphatic alarm that sporting goods manufacturers continued to sound in the press, in legislative hearings, and in medical journals, ultimately not

[74] Shea Sullivan, "Football Helmet Product Liability: A Survey of Cases and Call for Reform," *Sports Lawyers Journal* 3 (1996): 233-260; John Underwood, "An Unfolding Tragedy," *Sports Illustrated,* August 14, 1978 (Available at http://sportsillustrated.cnn.com/vault/article/magazine/MAG1093971/9/index.htm); Bill Sing, "Helmet Making Perilous As Football," *Los Angeles Times*, October 8, 1979; Mark Potts, "Helmet Makers Clipped By Insurance Costs," *Washington Post*; March 10, 1987.

[75] Tamar Lewin, "The Liability Insurance Spiral," *New York Times*, March 8, 1986.

many multimillion dollar cases were settled in favor of plaintiffs. In fact, in 1979, the chief financial officer of Wynn's International Inc., which had recently acquired Riddell, observed that despite a spate of lawsuits following *Stead v. Riddell*, "since then, we have not had any large adverse jury awards or large settlements." He characterized *Stead v. Riddell* as an "anomaly" that had prompted concern. In fact, by the late 1980s, the legal trend was moving away from expanding the boundaries of product liability, and toward limiting plaintiffs' rights to recover damages for product-related injuries. Two legal scholars suggested that this "quiet revolution in products liability" might be attributed to the success of tort reformers in linking product liability cases to the insurance crisis of the mid-1980s. In the area of athletic equipment, they found that plaintiffs had a success rate in two-thirds of cases from 1979-1984, which decreased to less than half of cases in 1985-1989.[76]

But perhaps the manufacturers' most notable strategy was their argument that the fundamental responsibility for football injuries should rest with the players and their parents and coaches. This argument fit in with broader, prevailing American beliefs about individual responsibility as the key to addressing health problems. For instance, in a widely cited 1977 article, physician and president of the Rockefeller Foundation John Knowles argued that educating individuals about health risks, from cigarettes to lack of exercise, and promoting a culture which encouraged individuals to assume responsibility for their behaviors, were the key to improving health. By making legal arguments that emphasized the personal responsibility of

[76] Bill Sing, "Helmet Making Perilous As Football," *Los Angeles Times*, October 8, 1979; James A. Henderson, Jr. and Theodore Eisenberg, "The Quiet Revolution in Products Liability: An Empirical Study of Legal Change," *UCLA Law Review* 37 (1990): 479-553; Theodore Eisenberg and James A. Henderson, Jr., "Inside the Quiet Revolution in Products Liability," *UCLA Law Review* 37 (1992): 731-810. See table A-10 for changes in plaintiff success rate in published opinions by product category.

individual child athletes and parents to assume the risks of football, sporting goods manufacturers drew on these beliefs about who should be held responsible for health problems.[77]

An SGMA-funded coalition advanced this perspective in a strategy reminiscent of other industry-sponsored front groups. In 1990 hearings before the U.S. Senate, the SGMA described their public education operation, the Coalition of Americans to Protect Sports (CAPS), as being founded in 1986 as "a grassroots organization whose purpose is to inform coaches, schools, and the general public about the detrimental impact liability is having on manufacturers of sports equipment and programs across the United States." Rather than a broad-based grassroots movement, however, CAPS was primarily an arm of the SGMA. Lobbyist Richard Feldman recalled that in 1988, he and other SGMA leaders renamed the group CAPS in order to make it sound more like a united national organization.[78]

As part of its goal to minimize the potential for liability litigation, CAPS asserted that better equipment and personal responsibility would address the issue of safety in sports. For instance, Sharon Lincoln, the communications director of CAPS, argued that lawsuits discouraged people "from accepting the rational, logical, and foreseeable risks of their own behavior." She singled out football as being essential to American culture and education, arguing that although football was particularly vulnerable to liability lawsuits and thus more costly to play and to insure, "many school administrators would laugh at the idea of doing away with it. Football is financially critical to schools." Instead of filing lawsuits, players and coaches needed

[77] John H. Knowles, "The Responsibility of the Individual," *Daedalus* 106;1 (1977): 57-80.

[78] Richard Feldman, *Ricochet: Confessions of a Gun Lobbyist* (Hoboken, NJ: John Wiley & Sons, 2007), 136; "Statement of the Sporting Goods Manufacturers Association," *Product Liability Reform Act: Hearings Before the Subcommittee on the Consumer of the Committee on Commerce, Science, and Transportation* (United States Senate, One Hundred First Congress, second session, on S. 1400, February 22, April 5, and May 10, 1990): 595-597.

to accept the risks and take responsibility for preventing them. CAPS developed a risk education program aimed at administrators and coaches of sports programs that emphasized the ways such "nonsensical" lawsuits could be avoided.[79]

In the *Journal of Physical Education, Recreation & Dance*, Lincoln promoted the *CAPS Sports Injury Risk Management Manual* and other CAPS materials "to help the sports community maximize athlete safety while minimizing the potential for litigation . . . . CAPS provides a checklist of safety precautions for coaches to follow and can update them on some of the most common types of sports accidents resulting in litigation, as well as the frivolous, nonsensical cases that pull coaches and school districts away from their teams and into the courtrooms." CAPS artwork included an image of a dejected youth baseball player sitting under a sign that read, "Field closed due to lack of insurance." These materials were disseminated in manuals, videos, and clinics.[80]

Similar to the public relations strategy of big tobacco companies and fast-food industry groups of shifting responsibility for risk away from themselves and onto consumers, CAPS thus sponsored a vision of individual responsibility for the health risks of competitive sports. CAPS framed their safety promotion materials as essential strategies for avoiding lawsuits and high insurance premiums that threatened the existence of youth sports. In the form of educational

[79] Sharon M. Lincoln, "Sports Injury Risk Management & the Keys to Safety," *Journal of Physical Education, Recreation & Dance* 63; 7 (1992): 40-42; 63.

[80] *Ibid.*

resources to protect sports and the health of players, the SGMA also shared a message of personal responsibility for safety that obscured the involvement of industry interests.[81]

Conclusion

Sporting goods manufacturers marketed their protective equipment as central to attaining athletic success as well as to preventing injuries. In their advertisements they highlighted the efficacy of helmets and the scientific design of their goods. Yet in defending themselves against product liability lawsuits, they emphasized the lack of relationship between helmets and the injuries of individual plaintiffs. Manufacturers further argued that individual coaches, parents and children should take responsibility for preventing football-related injuries because they had voluntarily chosen to assume the risks of the sport. They also threatened that lawsuits would doom football by rendering sports equipment manufacturing and insurance prohibitively costly. Ultimately, they largely succeeded in framing the issue of football safety as a matter of individual responsibility.

The success rate of plaintiffs in product liability lawsuits related to athletics declined in the 1980s, and athletic administrators, coaches and the general public largely maintained their beliefs in the importance and efficacy of protective equipment as essential to football safety. School football programs prioritized investing in equipment above other potential football-related expenses. If anything, buying the latest and best equipment became an even higher priority. As an athletic director told the *Los Angeles Times* in 1990, "the way lawyers are today,

[81] In fact, some industry front groups promoting personal responsibility are associated with both the tobacco and fast-food industries. For example, the tobacco industry originally funded the Center for Consumer Freedom to lobby against public smoking restrictions, but this D.C. based lobbying group evolved to advocate for food and sugar-sweetened beverage manufacturers. See Lissy C. Friedman, Andrew Cheyne, Daniel Givelber, Mark A. Gottlieb, and Richard A. Daynard, "Tobacco Industry Use of Personal Responsibility Rhetoric in Public Relations and Litigation: Disguising Freedom to Blame as Freedom of Choice," *American Journal of Public Health* 105; 2 (2015): 250-260.

if a kid gets hurt wearing a helmet that's five years old, you won't have a leg to stand on legally."[82]

Despite the expense of equipment, insurance, and potential lawsuits, the majority of school districts continued to offer high school football, and younger children continued to play in the youth leagues such as Pop Warner. Understanding the enduring popularity of football despite the significant financial costs and health risks involves understanding the cultural importance of the sport in communities, as will be examined in the following chapter.

[82] Mike Reilley, "Players' Safety Costly Aspect for Programs," *Los Angeles Times*; September 19, 1990.

Chapter Five. "It's All We've Got": Community, Education, and Youth Football

Football is "the pretty girls, the gay flags and that awesome, incomparable sound of roaring thousands in some Saturday stadium. Football is a spectacle as much as it is a contest; an occasion of social and community importance apart from its sporting significance. For many of those concerned with the game it is an enthralling year-round occupation, rather than the seasonal one day a week event it seems to many of its devotees."
-Lamont Buchanan, 1947[1]

In 1958, Henry Steele Commager, a well-known American historian, wrote an analytical essay published by *The School Review* examining historical trends in American high school education. Commager sharply critiqued an overemphasis on competitive athletics in high schools as failing to meet, or even hindering, the purported educational goals of sports. He singled out tackle football as an example of how competitive athletic programs failed to offer all students the opportunity to improve their physical health. "A system where a handful of boys devote most of their energy to football, while five thousand students sit in stands and watch them, is not designed to provide sound bodies to go with sound minds."[2]

Commager further argued that the most dangerous aspect of embedding competitive sports, particularly football, in high schools was the relationship between youth athletics and community interest and support. Child athletes, he said, were being exploited at night-time athletic contests:

> for the convenience, the entertainment, or the profit of adults. We would not expect or permit our high-school daughters to entertain the community in a night-club or burlesque

[1] Lamont Buchanan, *The Story of Football in Text and Pictures* (New York: Stephen-Paul Publishers, 1947), 9.

[2] Henry Steele Commager, "A Historian Looks at the American High School," 66 *The School Review* (Spring 1958): 1-18.

> show; there is no reason why we should permit our high-school sons to entertain the community by what are, in effect, burlesque performances on the playing field.[3]

Commager homed in on a longstanding, fundamental source of debate about the health consequences of football: whether football's association with education and its function as a major community event benefited young players. Over the twentieth century, as the demographics, tactics, equipment, and many other aspects of youth football changed, the relationship between youth football, schools and local communities persisted as a key feature of American life and as an ongoing source of concern. Examining some of the social benefits associated with the sport is essential to understanding how communities perceived both the advantages and risks of the sport for their children.

How did football in particular become so strongly associated with school and community identity in many American locales? In his examination of the importance of high school sports in northeastern Pennsylvania, historian Paul Zbiek suggests several factors that may have contributed to the prominence of tackle football. As a fall sport played in a large open field, in a setting that could accommodate crowds of thousands (unlike an indoor gym), football was well suited to mass spectatorship. The sport's hard hitting, rough play appealed to both coal miners and to elite families who associated the sport with their alma maters, combining "a working class attitude with the trappings of academia." [4]

Zbiek further argued that the geography of regions such as the Wyoming Valley fostered athletic rivalries and excitement. The proximity of small towns, their links with particular ethnic and

[3] Henry Steele Commager, "A Historian Looks at the American High School," 66 *The School Review* (Spring 1958): 1-18.

[4] Paul J. Zbiek, "The Importance of High School Sports in Northeastern Pennsylvania: Scholastic Football in the Wyoming Valley," in *The History of Northeastern Pennsylvania: The Last 100 Years* (Nanticoke, PA: Luzerne County Community College, 1989), 24-41.

socioeconomic identities, and the ability of boys to play team sports such as football together from grade school through high school, all contributed to a broader sense of community investment in the outcome of a match. In addition to the individual character-building, moral virtues related to the political culture of the Cold War that were discussed in chapter one, youth football was perceived to offer improved social status to athletes and success to their larger communities. Indeed, sociologist Gerhard Falk has observed that American football was not only a sport, but became "an alternative status system."[5]

Ideas about the risks and benefits of youth football circulated among adult organizers of the sport through different levels of play. This chapter examines how broader community values and concerns shaped some of these beliefs. The importance attributed to high school football in schools and communities contributed to the expansion of football at the little league level. Football among pre-high school aged children increasingly served as a "feeder system" for future high school play. Yet little league football also acquired particular meanings of its own, as examined here in a case study of the King of Prussia Indians, a local youth football organization in King of Prussia, Pennsylvania.

In addition, the appeal of future access to social and financial resources, including the hope of landing a college football scholarship, influenced how parents and players weighed the risks and benefits of the sport at the high school level and younger. The ways football improved perceived access to higher social standing and higher education contributed in part to the changing demographics of tackle football. The face of football changed enormously after the early 1900s, a period when it was associated primarily with the white Anglo-Saxon protestant

[5] Paul J. Zbiek, "The Importance of High School Sports in Northeastern Pennsylvania: Scholastic Football in the Wyoming Valley," in *The History of Northeastern Pennsylvania: The Last 100 Years* (Nanticoke, PA: Luzerne County Community College, 1989), 24-41; Gerhard Falk, *Football and American Identity* (New York: The Haworth Press, 2005), 31.

college students of elite schools such as Harvard and Yale. By the end of the twentieth century, tackle football was predominantly associated with working-class and disproportionately minority youths, particularly African-American boys. Debates over the risks and benefits of football thus became debates over the safety of a different, and largely more economically and socially vulnerable, set of young bodies.

While physical activity was certainly valued, the primary advantages of tackle football were above all framed as social benefits: both in teaching boys desired community and social values, and also in enhancing their future social success. Although the perceived social benefits of youth football outweighed or even masked its physical risks for many American boys, these social advantages carried particular meaning for vulnerable, marginalized groups. The racial and ethnic composition of youth football, and the geographic and economic conditions of communities where school football rose to greatest prominence, raise the question of whose bodies were at risk, and for which athletes and communities the social benefits of football carried the greatest significance.

The "Feeder System" of Football from Cradle

In 1961, *Sports Illustrated* profiled the town of Massillon, "a rugged steel town in northeastern Ohio." The immense popularity of Massillon's high school football team had already gained substantial national media coverage in the late 1940s and 1950s; the city was dubbed "Touchdown Town" in a 1951 newsreel.[6] This 1961 article emphasized that football dominated the lives of boys in the town even from their births. The local Booster club presented

[6] The tradition of presenting male newborn babies in Massillon with footballs has persisted and is also featured in the 2001 documentary *Go Tigers!* This film examines both the town and its football team. See Michael Oriard, "Go Tigers!" [review] *Journal of Sport History* 30; 1 (2003): 139-143.

boys born in area hospitals with footballs, and young boys were encouraged to begin playing the sport in anticipation of a potential high school career:

> By fifth grade he is playing organized football. When he enters one of Massillon's three junior high schools, he learns the formations and plays that the high school varsity uses. . . . There's no time for tears in Massillon's football program. The young boy with the professional-looking helmet may privately wonder if football is really for him, but in Massillon he has little choice. He is expected to want to play football, just as Massillon always is expected to win—the bigger the score, the better. With his mother and father and the Boosters shouting encouragement from the sidelines, with a small army of coaches studying his actions and with a large mechanical board to suggest what play he should run, there is nothing the boy need decide for himself. [7]

This profile illustrates a number of recurrent themes in organized youth football: the dominance of adults, including coaches, parents and the community booster club; the organization of programs of elementary and junior high school aged children in preparation for future high school careers; the use of equipment that mimicked the gear used by professionals; and the promotion of a tough, unemotional form of masculinity ("there's no time for tears"). The profile expressed ambivalence over whether the boys themselves were necessarily willing participants in organized athletics, but made clear the immense value the broader community placed on football. Beyond the players' parents and coaches on the sidelines, other adults throughout Massillon were deeply involved, including a group of "Side-liners" who "adopted" players each season and treated them to dinner and the movies each night before games.

Community booster clubs and other local football supporters were often instrumental in lending necessary material and financial support to local high school football programs. In a 1967 examination of high school football in Ohio, author and coach Carl Benhase recounted that

[7] Walter Bingham, "Football From the Cradle," *Sports Illustrated*; November 13, 1961.

when he took over as high school football coach at Circleville, Ohio, the athletic department was $10,000 in debt. Because the football team lacked the funds and the approval of the athletic board to purchase the football equipment they wished to obtain, the team improvised equipment and saved money on laundry with the help of local businesses and parents. For example, local merchants donated old mattresses to be used as fillers for standup blocking dummies, the equipment used to help players practice blocking techniques. Benhase also noted that he helped reactivate the local booster club, which in his first year of coaching at Circleville "raised enough money to purchase new varsity football game uniforms, sponsor a post-season banquet, and finance several other athletic activities."[8]

Similarly, a 1979 examination of Texas football highlighted the wide range of financial support such clubs offered athletic programs:

> Calling themselves the Bobcat Boosters or the Bay City Quarterback Club, they organize caravans to out-of-town games, welcoming committees for home games, team banquets with guest speakers; they pay for tutors or surgeons for dull or injured players, for various kinds of fancy equipment—prostyle Riddell helmets, say, or sideline headphones for the coaching staff—things the local school board can't find any way to finance or justify."[9]

Booster clubs also served to reinforce coaches' efforts to instill particular values in players. These often emphasized particular ideals of aggression and masculinity. In Benhase's chapter examining the "psychological approach to football," he detailed how the booster club of Sandusky, Ohio, assisted the coach in "the subtle art of 'needling'" the football team. On one occasion, the town's club sent a flock of chickens to the high school team's locker room just

[8] Carl K. Benhase, *Ohio High School Football* (West Nyack, N.Y.: Parker Publishing Co., 1967), 185. Benhase coached high school football at Portsmouth High School and Circleville High School, both located in towns in southern Ohio. Benhase was inducted into the Ohio High School Football Coaches Association Hall of Fame in 2001. "OHSFCA Hall of Fame," *Ohio High School Football Coaches Association*. Accessed January 12, 2016 at http://ohsfca.jjhuddle.com/ohsfca-hall-of-fame/.

[9] Geoff Winningham and Al Reinert, *Rites of Fall: High School Football in Texas* (Austin: University of Texas Press, 1979), 8.

prior to a game. As Benhase explained, "There had been some uncomplimentary talk about several players being 'chicken.' Rather than single out those individuals, the chickens were sent to the team with the implication the team was 'chicken.' The team got fired up and won a tough game."[10]

In many communities, then, parents, business owners, and other local residents were deeply involved in furnishing needed resources for football teams as well as defining broader community expectations that young athletes were expected to meet. High school football was a major community event in many regions of the United States, particularly in the Midwest and the South. Several towns in northeastern Ohio, such as Massillon, drew media attention in the 1960s for demonstrating particularly strong community interest in the sport. Noting that the Massillon community claimed to be the high school football capitol of the world, Carl Benhase estimated that during a single season, approximately 100,000 spectators attended the team's home games.[11] A 1962 *LIFE Magazine* profile of Martins Ferry, Ohio reported that on each Friday night in the fall sports season, about 8,000 people out of the town's population of 12,000 enjoyed the entertainment provided by the town's high school football team. *LIFE* reported that Gene Minder, a millworker, stated: "I told my two boys that if they wanted to amount to something better than their dad they would have to play football."[12]

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[10] The illustrations of "needling" that Benhase included in this chapter, as models for other coaches to follow, primarily played upon stereotypes of gender and sexuality. For instance, "On one occasion several years ago, Coach Tom Griswold of Deer Park High School aroused his boys to perform in a more aggressive manner by sending them each a pink powder puff in a plain envelope." Carl K. Benhase, *Ohio High School Football* (West Nyack, N.Y.: Parker Publishing Co., 1967), 82.

[11] Carl K. Benhase, *Ohio High School Football* (West Nyack, N.Y.: Parker Publishing Co., 1967).

[12] Mark Kauffman (photographer), "Rocky Cradle of Football," *Life Magazine*; November 2, 1962, pgs. 70A-75; John R. McDermott, "Rule One: Win or Else," *Life Magazine*; November 2, 1962, pgs. 77-78.

This *LIFE Magazine* depiction of an Ohio football town proved highly controversial among locals. On the fiftieth anniversary of the *LIFE* profile, the managing editor of the *Martins Ferry Times Leader* described the article's original impact. He observed that many residents were proud of their town's football heritage and dismayed that *LIFE* seemingly portrayed their town in an unflattering light. As one Martins Ferry native recalled, "people took exception to LIFE's selection of pictures to use in the issue as well as some of the quotes depicting Ferry and surrounding areas as grimy mill towns . . . . This resulted in many subscriptions ending up in the annual (fall) bonfire."[13]

Indeed, several weeks after the profile's 1962 publication, the magazine published a number of letters from residents of Martins Ferry registering their objections to the portrayal of their town. John Laslo, then the mayor of Martins Ferry, declared that residents were shocked and hurt. John C. Vargo of Martins Ferry dubbed the profile in *LIFE* to be "the most slanted, distorted and disgusting article I've ever read . . . . There is no depressing atmosphere in our town. And above all, football isn't the only means for a person to leave his home town." Despite controversy over how national media portrayed towns such as Martins Ferry, and whether football success was truly considered the only option for boys to seek a future elsewhere, the immense popularity of football was unquestioned. To many locals, this popularity ought to have been portrayed in a more positive light by *LIFE*. To them, high school football was a source of strength, achievement and unity in their community regardless of whether their team won or lost.

[13] Robert "Bubba" Kapral, "LIFE in the Mill Towns: Magazine paints Eastern Ohio in Negative Light," *Martins Ferry Times Leader*, November 2, 2012. Accessed December 31, 2015 at http://www.timesleaderonline.com/page/content.detail/id/542487/LIFE-in-the-mill-towns.html.

They disagreed with the implication that large-scale community involvement in high school football was an indicator of blight or a lack of other options in a "grimy mill town."[14]

Perhaps one of the most eloquent examinations of youth football in this Ohio town is a poem by Pulitzer Prize winning poet James Wright, "Autumn Begins in Martins, Ferry," capturing the connection between the sport's social and community power and its serious physical dangers:

> In the Shreve High football stadium,
> I think of Polacks nursing long beers in Tiltonsville,
> And gray faces of Negroes in the blast furnace at Benwood,
> And the ruptured night watchman of Wheeling Steel,
> Dreaming of heroes.
>
> All the proud fathers are ashamed to go home.
> Their women cluck like starved pullets,
> Dying for love.
>
> Therefore,
> Their sons grow suicidally beautiful
> At the beginning of October,
> And gallop terribly against each other's bodies.[15]

Sportswriter Taylor Bell's examination of the history of high school football in communities across Illinois similarly depicts locales where the sport represented a major focus of community life and aspirations. Particularly in small towns and rural areas, local high school football matches emerged as a source of large-scale entertainment. Al Martin, who began coaching high school football in Du Quion, Illinois in 1988, stated, "The streets are decorated

[14] John Laslo, "Re: Rocky Cradle of Football," [letter to the editor] *Life Magazine*; November 23, 1962, p. 37; John C. Vargo, "Re: Rocky Cradle of Football," [letter to the editor] *Life Magazine*; November 23, 1962, p. 37.

[15] James Wright, *The Branch Will Not Break* (Middletown, CT: Wesleyan University Press, 1963). Reprinted by permission of Wesleyan University Press.

with jerseys hanging on telephone poles. Everyone is at the game. You might not appreciate it as much as we do if you are from a big suburban school in Chicago. But it's a big deal in Du Quoin. It's all we've got." Martin further observed that in their rural community, where some children were homeless and some of their parents were unemployed, football represented a particular source of pride and motivation for youth living in adverse circumstances.[16]

High school football players were often heroes to younger children aspiring to one day receive similar acclamation for their exploits on the field. Denny Diericx, a former coach in Geneseo, Illinois, another small town of several thousand people, recalled that each Friday night, "as we waited for the sophomore game to end, a number of little kids would be standing around the back door of our locker room."[17] A 1979 examination of high school football in Texas meditated on the burden such expectations from adults and young children alike placed upon the high school athletes: "The prospective heroes are mostly fifteen and sixteen years old, unused to being depended upon for anything at all, justifiably haunted by the fear that they're really still just children."[18]

Not all community members, of course, readily embraced football as beneficial for children and the broader community. A 1967 examination of high school football coaching in Ohio describes some of this skepticism and the strategies that coaches employed in response. The book detailed, for instance, the challenges that Ron Jones faced when taking over a relatively new football program at the local high school in Piketon, Ohio. As head coach, Jones

[16] Taylor H.A. Bell, *Dusty, Deek, and Mr. Do-Right: High School Football in Illinois* (Urbana, Ill.: University of Illinois Press, 2010), 176.

[17] Taylor H.A. Bell, *Dusty, Deek, and Mr. Do-Right: High School Football in Illinois* (Urbana, Ill.: University of Illinois Press, 2010), 179.

[18] Geoff Winningham and Al Reinert, *Rites of Fall: High School Football in Texas* (Austin: University of Texas Press, 1979), 10.

faced difficulties in recruiting players: "Coach Jones' problem was typical of that in a new school where football has not been previously played. Most of the parents felt that football was a brutal sport, and there was little or very limited value of a boy participating in it." The community's embrace of football was far from assured; it would need to be fostered by the intervention of coaches and administrators.[19]

Jones responded to parental reluctance by arranging home visits with prospective players and their parents in order to "sell" the program to them. Other coaches took different approaches to promoting their programs among potential objectors. As discussed in chapter one, mothers were often perceived as the barrier to their sons' ability to participate in the sport. Thus, Coach Tony Mason at Niles-McKinley High School in Niles, Ohio, initiated a football class for women in the community to teach them the rules and strategies of football. With attendance reportedly often numbering over 100, this class resulted in a Mothers' Club to aid in preparing the team banquet as well as raising money for other team needs. Building football programs involved reassuring parents that the risks of the sport were minimal and that football participation would confer valuable physical and social benefits.[20]

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[19] Benhase, Carl K. *Ohio High School Football* (West Nyack, N.Y.: Parker Publishing Company, 1967), 191.

[20] Benhase, Carl K. *Ohio High School Football* (West Nyack, N.Y.: Parker Publishing Company, 1967). Ron Jones served as the head football, basketball, baseball and track coach at Piketon High School until 1969. He later served as athletic director of Westerville High School and would be inducted into the Ohio Interscholastic Athletic Administrators Association Hall of Fame in 1990. "Hall of Fame," Otterbein University Athletics. Accessed January 11, 2016 at http://otterbeincardinals.com/hof.aspx?hof=28&path=&kiosk=. Coach Tony Mason arrived in Niles, Ohio in 1958 and remained there as head coach for six years, and would later serve as head coach at the University of Cincinnati and the University of Arizona. Corky Simpson, "Mason Never Quite the Same After His Tuscon Experience," *Tuscon Citizen*; July 25, 1994. Accessed January 11, 2016 at http://tucsoncitizen.com/morgue2/1994/07/25/10226-mason-never-quite-the-same-after-his-tucson-experience/. Steve Ruman, "Mason, Staff Kept Red Dragons Going Despite Graduation Losses," *The Vindicator* [Youngstown, Ohio]; August 25, 2013. Accessed January 11, 2016 at http://www.vindy.com/news/2013/aug/25/mason-staff-kept-red-dragons-going-despi/?print.

Overall, the intensity with which many American communities embraced high school interscholastic athletics generally, and football particularly, influenced the expansion of the sport at the junior high school level at mid-twentieth century. This trend prompted concerns about tackle football's impact on student well-being, as evidenced by comments by educators and several school health and recreation reports. A 1958 survey of interscholastic programs in junior high schools, conducted by the Committee on Junior High School Education of the National Association of Secondary-School Principals, found a pronounced trend in some states toward formalized football for eighth and ninth graders. A common complaint was that senior high schools composed of tenth, eleventh, and twelfth grades were at a competitive disadvantage if their students were not exposed to organized football while enrolled in junior high. Furthermore, the report noted that youth football leagues outside the jurisdiction of state athletic associations (such as Pop Warner league teams) were making inroads in a number of states. Out of 1,968 junior high schools across the United States responding to the survey, 1,384 schools reported having tackle football teams. This made tackle football the third most commonly reported sport on offer, after basketball and track.[21]

The report's authors compared the number of principals who responded saying they favored interscholastic athletics with the number of junior high schools that actually offered these activities, and concluded that "it is evident that a greater number of schools *have* interscholastic athletics than the number that *favor* them" (italics in original). This suggested the possibility that broader community pressures and values, not merely administrators' views, were influencing the growing prominence of interscholastic athletics among younger students. The

[21] Ellsworth Tompkins and Virginia Roe, *A Survey of Interscholastic Athletic Programs in Separately Organized Junior High Schools; A Project of the NASSP Committee on Junior High-School Education* (Washington, DC: National Association of Secondary-School Principals, 1958).

report noted the danger that sports "which promote a high degree of spectator interest" would dominate physical education programs to the exclusion of other, more appropriate activities. "Even in the earlier grades the influence of the high-school interscholastic program may be so great that the physical education instruction becomes primarily a 'feeder' for high-school athletics and thereby neglects activities more suitable to the growth and development of the younger children."[22] As discussed in chapter two, these medical concerns about the physical risks of football for pre-pubescent children were particularly focused on how injuries might harm bone growth and physical development.

In 1963, a committee of representatives of medical, educational and recreational associations similarly cautioned that the relationship between social pressures and the physical risks of tackle football at the junior high school level were potentially harmful. They argued that the dangers of physical contact, the relatively high injury rate in the sport, and the emotions associated with intense competition were all

> intensified in communities where there are pressures to use junior high school athletics as a farm system for the intensive development of high school prospects. Unless these factors can be controlled—and the kind of equipment, facilities, health supervision, coaching, and officiating that are necessary for the optimum safety of the participants can be provided—tackle football should not be included in the junior high school athletics program.[23]

Yet prominent, successful high school football programs more commonly inspired increased participation in football programs for younger children in junior high or grade school. One such example occurred with a string of high school football victories and state

[22] Ellsworth Tompkins and Virginia Roe, *A Survey of Interscholastic Athletic Programs*, 34.

[23] Joint Committee on Standards for Interscholastic Athletics, *Standards for Junior High School Athletics; Report of the Junior High School Athletics Subcommittee of the Joint Committee on Standards for Interscholastic Athletics* (Washington: American Association for Health, Physical Education, and Recreation, 1963), 18.

championships under Bob Reade, the head football coach at J.D. Darnall High School in Genesco, Illinois from 1962 to 1978. The program's success "really gave the community something to hang its hat on" recalled Ted McAvoy, who served as Reade's statistician and later served as principal of the high school. Moreover, the victories "trickled down to the youth football league. From fifth grade on, half of the boys in every class, 50 or more, would try out for football."[24]

Bob Reade would later write a book entitled *Coaching Football Successfully,* with a foreword contributed by famed Penn State coach Joe Paterno. Reade emphasized the importance of promoting participation at the younger levels before high school: "the real key is that the kids coming into the program have all had an opportunity to play." He further recommended that head high school football coaches building their school programs attend as many games at lower levels of play as possible. "The head coach must show the young people participating in the program he is interested in them."[25]

By the 1950s and 1960s, the extent to which high school football was entrenched as part of school and community life shaped understandings of the sport's effects on student well-being. In seeking to prevent youth athletic injuries in interscholastic high school programs, leading educators took as a given that the sport conferred social and educational benefits to students. Yet at the same time, they expressed concern about the increasing use of youth football as a "feeder

[24] Taylor H.A. Bell, "Dusty, Deek, and Mr. Do-Right: High School Football in Illinois," (Urbana, Ill.: University of Illinois Press, 2010), 178.

[25] Bob Reade, *Coaching Football Successfully* (Champaign, IL: Human Kinetics, 1994), 37. In 2011, Penn State dismissed Joe Paterno following the arrest of Jerry Sandusky, a former assistant football coach who was accused of sexually abusing multiple children. Mark Viera, "Paterno is Finished at Penn State, and President is Out," *New York Times*; November 9, 2011. Accessed April 21, 2016 at http://www.nytimes.com/2011/11/10/sports/ncaafootball/-joe-paterno-and-graham-spanier-out-at-penn-state.html. For a historical examination of the Jerry Sandusky child abuse case, and its relationship to Penn State's football program, see Ronald A. Smith, *Wounded Lions: Joe Paterno, Jerry Sandusky, and the Crises in Penn State Athletics* (Urbana, IL: University of Illinois Press, 2016).

system" and uncertainty about what precisely constituted the educational value of contact sports such as football. In a 1967 interview, the supervisor of athletics for the New York State Department of Education stated that the education department believed strongly in the benefits of contact sports; "they have special values that other activities don't." "Yet he also asked, "What's education? Are eighteen games more educational than twelve? Where do you reach the limit? . . . . We don't know what is soundest educationally in terms of boys' learning a sport and milking it to its maximum for his own educational use and use after graduation."[26]

At the pre-high school level, a 1969 master's thesis in education by Richard Stuetz, who would later go on to coach football at Saddleback College, is a particularly instructive example of efforts to evaluate the educational benefits of youth football. Stuetz examined the Pop Warner youth football league in Orange County, California, which at the time had about 1200 boys enrolled in the league, playing on around 60 teams. Stuetz remarked that one of the greatest selling points of the Pop Warner program was its "amazing lack of injuries" and its use of safety equipment. Yet whether such youth football leagues promoted values consistent with the broader objectives of secondary education was unclear, he argued, and needed to be assessed.[27]

Stuetz's chosen methodology to answer this question—asking several coaches to fill out a questionnaire indicating whether they believed each of their players had evinced particular values—appears to be highly subjective and susceptible to individual bias. The questionnaires Stuetz devised and his analysis of the coaches' responses nonetheless reveal the types of

[26] Interview with Robert Carr by Alan P. Peppard, May 19, 1967, in Alan P. Peppard, *The Status of Programs for the Care and Prevention of Athletic Injuries in Schools Within a Geographic Region of the New York State Public Health School Athletic Association* (M.S. Thesis, The University of Massachusetts, 1969): 81-102.

[27] Richard Edward Stuetz, *An Evaluation of the Educational Values of Pop Warner Football with Reference to the General Objectives of Secondary Education* (M.A. Thesis, Chapman College, 1969), 11.

community and educational values that physical educators associated with football. The objectives Stuetz evaluated and compared at the Pop Warner and high school levels of play included loyalty, living and working with others, appreciating "the significance of the family as the most important unit in a society," and understanding the rights and duties of a citizen in a democratic society.[28]

Stuetz reported that high school football was more effective overall at imparting these desirable values to young athletes. Based on the coaches' responses, "the high school is doing the best job here of promoting both pride in the community and promoting fair play." Stuetz identified two major negative factors at the Pop Warner level: parental pressures, and untrained coaches. Addressing these two factors, he argued, was not only important for improving the experience of the youngest players, but also for ensuring that they would continue to play the sport. A successful experience at the Pop Warner level "will give a boy the desire to continue on in the high school program and remain involved in healthy activity."[29] Thus, high school football was in many ways treated as the "gold standard" of how football could impart community and educational values to young players. Where pre-high school, little league football organizations fell short, Stuetz argued that they needed to adopt the positive aspects of high school football.

In addition, the high standing of high school football likely influenced medical understandings of football's physical risks. As discussed in chapter two, professional medical organizations in the 1950s and 1960s expressed specific concerns about bone growth in pre-pubescent children, but offered relatively few objections to the physical risks of high school

[28] Richard Edward Stuetz, *An Evaluation of the Educational Values of Pop Warner Football with Reference to the General Objectives of Secondary Education* (M.A. Thesis, Chapman College, 1969), 36.

[29] Richard Edward Stuetz, *An Evaluation of the Educational Values of Pop Warner Football*, 34, 48.

football in older teenagers. It may have been more culturally feasible—or even merely conceivable—for doctors and educators to contest the expansion of football to younger ages, rather than challenging the widely accepted place of football in high schools. Consistent with the Cold War ideologies discussed in chapter one that helped promote competitive sports such as football, many communities, coaches and parents believed participation in youth football was crucial to boys' future success in school and in life. Such justifications for high school football, the explicit involvement of high school football coaches in encouraging and motivating younger players, and the belief that participating at younger ages would increase young players' chances of playing for their high school teams, further pushed younger children to participate in football in leagues not associated with schools.

King of Prussia Indians, Pennsylvania

Little league football teams operated not only as feeder systems for high school football, but also acquired their own particular status as prominent centers of community life. The growth of the King of Prussia (KoP) Indians youth football team in King of Prussia, Pennsylvania exemplifies the transition from informal sand lot games to adult-organized league play. The heavy involvement of adult leaders in supervising boy football players and girl cheerleaders also illustrates the importance that youth football for even elementary school aged players could attain in local communities.

In 1956, starting with 22 young boys, Alan Richter founded the KoP youth football team in the small Pennsylvania town, with practices taking place in a local cow pasture. Shortly thereafter, Dave and Mary Vannicelli joined as adult volunteers and would remain prominent leaders with the KoP team for several decades. Dave Vannicelli had played college football at

Widener University, then known as the Pennsylvania Military Academy, before transitioning to coaching after seeing an advertisement seeking an assistant coach (see Figure 17). In 1958, the KoP Indians became charter members of the Bux-Mont League of southeastern Pennsylvania, and in 1959 the KoP team came in third place in the nationwide Pop Warner Conference Little Scholars program, losing to an All-Star team in Cape Canaveral. A 30 year retrospective on the team kept by the Vannicellis proudly noted that the KoP team had thus gone "from cow pasture to Cape Canaveral" in the space of three years.[30]

Figure 17. Coach Dave Vannicelli with King of Prussia Indians[31]

[30] "Indians Celebrate 40th Year," *The Reporter* [Upper Merion Area School District] (March 1995): 15; "30 Years on the Reservation," (n.d., estimated 1986); Dave and Mary Vannicelli Collection, King of Prussia Historical Society, King of Prussia, PA; Sandy Vannicelli, interviewed by Kathleen Bachynski, February 15, 2015, transcript.

[31] Coach Dave Vannicelli with the King of Prussia Indians, no date (estimated late 1950s). Photo courtesy of King of Prussia Historical Society. Dave and Mary Vannicelli Collection, King of Prussia Historical Society, King of Prussia, PA.

The KoP Indians became formally organized as the King of Prussia Football Association (KPFA) in 1960, and in 1963 they were legally incorporated. The Vannicellis' daughter Sandy recalled that Mary Vannicelli was named as one of the three incorporators, because her husband Dave was a team coach. The couple wished to avoid a possible conflict of interest if Dave was both a coach of a particular team as well as incorporating the association, a worry which suggested the great seriousness with which the adult supervisors treated organized football. [32]

By this time, the KoP Indians were already well organized with uniforms, equipment, fund raisers, and local media coverage. For example, in 1963 the *Valley Forge Sentinel* covered the team's games, fundraising efforts, and the ways parents and community members supported the league. One issue included a photo of the football players and the team's cheerleaders at a fund drive. The original caption read: "The King of Prussia Indians and their cheerleaders boarded a fire truck Sunday and toured Upper Merion on a house-to-house fund drive. The players' fathers, mothers and sisters pitched in for sideline and grandstand chores. The Indians open Sunday at 2 p.m. when Lower Southampton visits at Walker Field" (see figure 18). The Vannicellis submitted the results of the team's games to local newspapers, and area newspapers reported on the scores of the matches of even elementary school aged players.[33]

[32] Sandy Vannicelli, interviewed by Kathleen Bachynski, February 15, 2015, transcript.

[33] "30 Years on the Reservation," (n.d., estimated 1986); Dave and Mary Vannicelli Collection, King of Prussia Historical Society, King of Prussia, PA; Francis J. Rubert, Ann R. Shronk, and Mary P. Vannicelli, "Articles of Incorporation: King of Prussia Football Association," November 19, 1963, Dave and Mary Vannicelli Collection, King of Prussia Historical Society, King of Prussia, PA. The Dave and Mary Vannicelli Collection is full of newspaper clippings dating as early as the 1960s; see, for instance, "Indian 85s win by 13-7 Against Warrington Club," *The Philadelphia Evening Bulletin*; October 3, 1963.

Figure 18. King of Prussia "Injuns on An Engine," 1963[34]

In 1964, Dave Vannicelli wrote a letter to the National Pop Warner Office describing the amount of volunteer time he and his wife had dedicated to the KPFA in the previous year. Tasks included "coaching, committee work such as equipment, banquet, trophies" as well as "meetings, mailing of information, preparing and reproduction of all paper work, establishing and maintaining a League player registration file, correspondence, etc." He estimated that throughout the year, he had devoted about 700 hours of his time to KPFA, while his wife had given about 350-400 hours of her time. While the Vannicellis may have been particularly dedicated

[34] "Injuns on An Engine," *The Valley Forge Sentinel*; September 12, 1963, front page, Dave and Mary Vannicelli Collection, King of Prussia Historical Society, King of Prussia, PA.

volunteers, these estimates nonetheless suggest the level of involvement that running an organized youth football association entailed.[35]

The adult leadership of the KoP Indians emphasized that their primary objective was fostering moral character in young athletes and shaping future adults according to community values. This mission was made clear in Article II of the KPFA's constitution, which stated that the association's goal was "to implant firmly in the boys and girls of our community, the principles of good character development, i.e. courage, responsibility, sportsmanship, fair play, leadership, and respect for rules and regulation, as well as to foster higher achievement in scholastic activities." The constitution further stated that these goals "shall be achieved by providing supervised competitive football games and related activities within a program that fosters favorable character development. The elected officers shall bear in mind that the molding of future men and women is of prime importance, and that winning is secondary."[36]

An undated Q&A on the history of the KPFA from Dave and Mary Vannicelli, estimated to be from the late 1980s or early 1990s, noted that at the time of its writing, the league had 12 football coaches, 95 "young men" aged 6 to 13 years old playing football in four different weight class teams, 56 cheerleaders, 3 adult sponsors, and 45 adults "engaged in administration including officers, board members, team mothers, business managers, and equipment personnel."

[35] Letter, David E. Vannicelli to Mr. John D. Scott, National Pop Warner Office, Philadelphia Athletic Club, August 23, 1964. Dave and Mary Vannicelli Collection, King of Prussia Historical Society, King of Prussia, PA.

[36] "Constitution of the King of Prussia Football Association, Inc.," May 4, 1976, page 1. Dave and Mary Vannicelli Collection, King of Prussia Historical Society, King of Prussia, PA.

With varying degrees of involvement, a large number of adults volunteered their time with the league.[37]

It is also notable that the division of labor among these numerous adult supervisors remained heavily gendered throughout the final decades of the twentieth century. A 1999 KoP information packet for new and returning members distinguished between the responsibilities of "team moms" and "business managers (team dads)." The duties of the team moms included keeping the children orderly on the bench; arranging snacks for game days; signing up parents on practice nights and home game days to work in the teen activity center ["TAC house"]; working to promote fundraisers; relaying organization communications to the parents; and arranging the team party. Meanwhile, business managers, identified in parentheses as the team dads, were expected to "help to keep order on practice nights and games days; assist in relaying organization communications to parents; conduct weigh-ins prior to the start of each game; check that players have necessary protective equipment; carry medical cards at all times; provide write-ups of games to the Publicity Director and provide scores of all home games to the Publicity Director."[38]

Team fathers' duties thus explicitly encompassed oversight of youth football safety by assisting with practices and games and checking player equipment and medical cards, whereas

[37] "History," n.d., Dave and Mary Vannicelli Collection, King of Prussia Historical Society, King of Prussia, PA. I estimate the date of this "History" Q&A document to be from the late 1980s or early 1990s based on the statement it contains that since 1963, "approximately 2700 boys have participated in the Indians program." An average of 100 boys participating per year would lead to an estimate of 2700 boys over 27 years, leading to an estimate of 1990 as the date of creation of this document (27 years later than 1963). The KFPA's 1986 Constitution and By-Laws noted that the KFPA previously had up to 6 or 7 weight teams and had recently transitioned to 4 weight teams. Additionally, the paper and typeset of the document is similar to that of other documents in the archive dated from the late 1980s.

[38] "1999 King of Prussia Indians Football," (1999), p. 4, Dave and Mary Vannicelli Collection, King of Prussia Historical Society, King of Prussia, PA. "History," n.d., Dave and Mary Vannicelli Collection, King of Prussia Historical Society, King of Prussia, PA.

mothers managed communications and social events and oversaw player behavior on the sidelines. Identifying fathers as "business managers" also had the effect of distancing fathers from their more personal, parental role as dads. Their contribution as adult supervisors was instead framed as contributing professional, managerial and athletic skills rather than nurturing, social or communication skills.

The Q&A response to a question on how the league ensured the safety of its players emphasized the kind of adult supervision that was primarily furnished by coaches and fathers as business managers. Adult organizers matched players according to their age and weight so that players would not be overmatched physically. They also ensured that all athletes received high quality protective equipment, including helmets whose design was approved by NOCSAE and which were regularly inspected by an outside agency. In addition to overseeing physical conditioning and training, the youth football league required game day medical coverage, which was provided by medical personnel from the Lafayette Ambulance Squad in Upper Merion, Pennsylvania.[39]

The supervisory imperative, as described in chapter two, is clearly evident in the structure of the KPFA league and the strategies the league employed to provide for its players' safety. The belief that organized competitive football was an ideal means to foster desirable values and moral character in children influenced these strategies and shaped perceptions of the sport's potential harm. With coaches in charge, fathers directly involved on the field, and mothers assisting on the sidelines, the adults overseeing the sport believed that youth football offered

[39] "History," n.d., Dave and Mary Vannicelli Collection, King of Prussia Historical Society, King of Prussia, PA.

significant social and moral benefits to children, and that their involvement minimized the sports' physical risks.

In fact, the community's response to those youth football injuries that did occur was characterized as exemplifying the virtues of teamwork and caring. In a 1996 letter to the president of the KPFA, a board member noted that families from the 55 pound team and others within the KPFA organization had expressed concern about a knee injury that a young player, Robert, had sustained. She noted that her phone had been ringing off the hook with inquiries. Young Robert had received several visitors at the hospital as well as follow-up phone calls asking how his orthopedic exam had gone. She requested that the KPFA president convey to the board "that even if nothing else we are teaching these kids what a team is and what it means to be part of that team including caring enough to show it when someone is hurt." Despite the best efforts of adult supervisors to prevent football injuries, it was understood that some injuries would nonetheless occur. Yet provided they were not too serious, the football injuries that players sustained carried redeeming moral value: the response to those injuries could be the source of the types of social lessons the adult organizers were seeking to impart to their young athletes.[40]

The available board meeting minutes from the KPFA archive document significant attention by the league's leadership to how to best ensure medical supervision of youth games. For instance, on October 1997, the board noted that providing football coaches with CPR training would be less expensive than paying emergency medical technicians to cover home games. In November 1997, three parents from the 55 pound team attended the meeting to discuss

[40] Letter, Fran Littlewood to Mike Adelsberger, President, King of Prussia Indians Football Association, November 12, 1996. Dave and Mary Vannicelli Collection, King of Prussia Historical Society, King of Prussia, PA.

apparently inadequate medical coverage at games. When a KPFA representative asked a "medical person" to provide identification, they were given a blank form. Without identification of the attendant's medical training, they did not let the game continue. In addition, the opposing team "introduced a man who never came on field when a boy was hurt. Parents questioned leagues [*sic*] ability to enforce coverage." The KPFA board decided that they should not play against this team given this failure, and that the following year team coaches and dads would enforce this policy. Ensuring trained medical supervision was evidently an ongoing challenge, and the adult men associated with the league were tasked with overseeing this problem.[41]

KPFA's leadership also included a groundskeeper and equipment director who supervised the fields used by the team, as well as the provision and recertification of protective equipment for players. In 2000 KPFA member Bob Gray held this position, and his detailed notes on the status of the association's helmets indicate the logistical and legal complexity of maintaining this single piece of equipment. Gray kept a detailed list of helmet sizes and dates purchased, noting that two-thirds of the association's inventory had been purchased between 1990 and 1992, making most of the helmets nearly a decade old. While other helmet models had a mandatory discontinuance of use policy after the eighth year from date of manufacture, this was not the case for the helmets in use by KPFA. Additionally, at the high school level, Gray noted, all football helmets were required to be re-certified annually, but this was not mandatory at the youth level. Unlike the high school level of play which was overseen by the National

[41] "KPFA Board Meeting of 10-8-1997" and "KPFA Board Meeting of 11-12-97," Dave and Mary Vannicelli Collection, King of Prussia Historical Society, King of Prussia, PA.

Federation of State High School Athletic Associations, youth leagues for younger children were overseen by a variety of private organizations that set their own policies.[42]

While particular policies differed at different youth levels of play, it is clear that the institutionalization and standardization of football safety practices in little leagues, junior high schools, and high schools resulted in an emphasis on a large number of technical requirements and safety boxes to check. These ranged from documenting the presence of medical personnel at games when required, to notifying football league commissioners that all the players' helmets had been certified by NOCSAE.

Despite these forms of oversight, parents nonetheless remained concerned about injuries through the latter decades of the twentieth century, as suggested by the efforts that leagues and sports organizations invested in reassuring parents that tackle football was indeed safe for children to play. The KoP football archives include a 1996 article by reporter Kent Hannon entitled "Is Football Safe for Kids?" Published as part of a special supplement of *Sports Illustrated for Kids,* this issue was intended for parents, advising them on "how to help your kids get the most out of sports." KoP football organizers, then, had most likely saved this article for use as a reference for coaches and parents about the safety of football.[43]

The article opened by illustrating concerns which purportedly proved to be unfounded over an apparent head injury. It recounted the story of Brent McEwan, then 10, who was playing linebacker when he experienced a helmet-to-helmet collision with another child. His father

[42] Bob Gray, "Helmets—Purchases, Inventory, Notes, and Comments," March 19, 2000, Dave and Mary Vannicelli Collection, King of Prussia Historical Society, King of Prussia, PA.

[43] Kent Hannon, "Is Football Safe for Kids?" *Sports Illustrated for Kids* 8;9 (September 1996): 20-22. For an example of certifying that all football helmets in use each season had been approved by NOCSAE, see untitled letter from Michael Adelsberger, KPFA President, to the Keystone State League Commissioner, August 1, 1994, in Dave and Mary Vannicelli Collection, King of Prussia Historical Society, King of Prussia, PA.

recalled, “Both kids went down and didn’t move. I remember someone saying, ‘Those kids are really hurt.’” Brent’s helmet had split in half. Yet the boy himself was not injured according to Hannon, who added that Brent “never suffered a serious injury while playing” the sport from his youth through his college football days. In other words, a collision where a young player went down and did not move was ultimately not considered to be a serious injury.[44]

The *Sports Illustrated for Kids* examination of football safety listed three key safety factors: proper equipment; teaching of correct football technique, specifically never leading with the helmet to make a tackle; and the small size of the young children matched against other children of a similar age and weight (“FORCE=mass x acceleration, and kids don’t generate much force”). In addition to the emphasis on safety factors associated with adult supervision, the article also quoted coaches who made familiar comparisons about the relative safety of football as compared to other popular childhood activities. One youth football coach, who was in his eleventh year of coaching Pop Warner teams, stated that “Frankly, many more of our kids get hurt riding bikes, climbing trees, or in-line skating than they do playing football.”[45]

Despite these reassurances, the appropriate age at which to begin participation in organized youth football, whether tackle or flag, remained a source of uncertainty. The archive of KoP material includes a flurry of 1996 letters between parents and league officials related to whether two flag football coaches were appropriately and safely conducting their team’s games and practices. Some parents expressed concerns that there was inadequate practice time that was spread too thin among too many players, while other parents wrote letters of support for the coaches in response to these complaints. The series of letters illustrates parental perceptions of

[44] Kent Hannon, “Is Football Safe for Kids?” *Sports Illustrated for Kids* 8;9 (September 1996): 20-22.

[45] *Ibid*.

the benefits of organized sports as well as safety concerns. Notably, parent Robert B. Leahy sent a letter to Fran Littlewood, the KoP Indians Flag Football Representative, to communicate his view that the coaches were not fundamentally to blame for his safety concerns, and that they had performed their coaching duties well. Instead, he argued,

> The real problem is the age level that you are dealing with. Five year old children are not mentally and physically prepared to play football. That is just the plain truth. State it any other way you like, they are too young. The program should start at the age of six thru eight, provided weight is a concideration [*sic*]. One real test for the board members will be when some five year old child is out there not paying attention and is badly hurt. God forbid.[46]

Mr. Leahy's letter suggested the view that children who were too young to consistently pay attention to adult coaches and follow directions were too young to sufficiently benefit from adult supervision, and thus too young to play football. Some parents thus expressed uncertainty whether children as young as five should be playing any form of organized football, including flag football. The fact that by the 1990s, the source of debate was over whether 5 year olds should be playing organized sports, indicates the extent to which earlier debates about the extension of competitive youth sports to younger ages had moved. By this time, it was largely taken as a given that older children, even those as young as 9 or 10, could play organized football. With football framed as safe for grade school children given the proper adult supervision, the debate had instead shifted to identifying at which age children were old enough to understand and take advantage of such supervision.

[46] Letter, Robert B. Leahy to Fran Littlewood, King of Prussia Indians Flag Football Representative, n.d. (c. November 1996), Dave and Mary Vannicelli Collection, King of Prussia Historical Society, King of Prussia, PA. While the letter is undated, Leahy indicates that he is replying to a communication from Fran Littlewood that was written on November 4, 1996. Thus it is likely that this letter in response was also written in November 1996.

Education, Race and Youth Football

Parents and coaches attributed significant educational and character-building value to football for young children. Tackle football was also perceived to carry the potential to enable children to access greater social status, recognition, and even future resources, particularly access to higher education. Race and socioeconomic status significantly influenced the value of these perceived benefits. Consequently, examining racial, ethnic, and socioeconomic transitions in the demographics of youth football is critical to understanding debates over the sport's safety.

In the late nineteenth and early twentieth century, football was most prominently associated with the elite, Anglo-Saxon, protestant college students of Harvard and Yale. Indeed, at the turn of the century, coaches at Ivy League institutions explicitly characterized the sport as an exemplar of the superiority of the Anglo-Saxon race and upper-class masculinity. In 1900, Harvard's football coach stated that "football is the expression of the strength of the Anglo-Saxon. It is the dominant spirit of a dominant race, and to this it owes its popularity and its hopes of permanence."[47] Opposition to football as entertainment during this period centered on objections to the participation of elite, educated men in such an unseemly activity. As an 1897 *New York Times* editorial argued, "A young gentleman engaged in getting an education ought not to exhibit himself for money and he and his fellows ought not to raise a mere sport to the dignity of an occupation."[48]

[47] W. Cameron Forbes, "The Football Coach's Relation to the Players," *Outing, An Illustrated Monthly Magazine of Recreation*, December 1900, 336. On the importance of the Ivy League schools to the development of football, see Mark F. Bernstein, *Football: The Ivy League Origins of an American Obsession* (Philadelphia: University of Pennsylvania Press, 2001).

[48] "Two Curable Evils," *New York Times*; November 23, 1897. Tellingly in the context of football, masculinity, and race, the two "curable evils" described in this editorial were football and lynching. The *New York Times* argued that both evils could be cured by altering financial incentives. The family or kin of lynching victims should be entitled to the right to recover damages against the sheriff of the county where the victim was lynched. Meanwhile, in the case of football, "the process must be reversed. Take away the gate money and the game will revert to its proper status of

While players of European descent represented by far the majority on football fields at the turn of the twentieth century, participation in tackle football by members of minority American racial and ethnic groups dates to the sport's earliest days. In the 1890s, for example, several predominately white college football teams in northern U.S. states included a limited number of black players. Participation in football by minority racial groups was often, among other functions, intended to counter prevailing racial stereotypes. Success at football had the potential to demonstrate that young boys and men typically considered inferior were in fact civilized "gentlemen" entitled to the same regard as their white peers.[49]

Nowhere is this aspiration more evident than in the development of the youth football program at the Carlisle Indian School, where Pop Warner, the namesake of the Pop Warner Little League, achieved much of his coaching fame. As Sally Jenkins has observed in her examination of the Carlisle football team, the white administrators of the Carlisle Indian School realized that football was "a stage on which Carlisle could exhibit a different kind of 'show Indian' to the public, one who was every bit as intelligent and civilized as the elite college boys." A number of Native American leaders similarly acknowledged the potential of football as an avenue to fuller participation in American life. In 1906, Dr. Carlos Montezuma, a Yavapai doctor who served as resident physician at the Carlisle Indian School for several years, clarified his perspective on

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innocuous pastime."

[49] For instance, "William H. Lewis and William Tecumseh Sherman Jackson were teammates at Amherst in 1889, 1890, and 1891 and Lewis served as team captain in the second year. Lewis then played the 1892 and 1893 seasons at Harvard, meriting All-American honors both years. Other black players included George A. Flippen at Nebraska, Joseph H. Lee at Harvard, George M. Chadwell at Williams, and William Washington at Oberlin." Richard A. Swanson and Betty Spears, *History of Sport and Physical Education in the United States* (Dubuque, Iowa.: WCB Brown & Benchmark, 1978), 181.

football for Native Americans in *The Indian's Friend*. "Let us get into civilization. If there is no other way but by kicking the pigskin, then let us get in that way."[50]

The administrators of the Carlisle Indian School fervently sought to convince the American public that the assimilation of Native Americans into white Christian culture was possible through the type of education they offered. Football matches in which teenage Native American students challenged Harvard and Yale athletes on the gridiron appeared to be the most effective means to reach the public. Richard Henry Pratt, the founder and superintendent of the Carlisle School, may have been initially concerned about injuries, but reportedly rationalized the introduction of the sport into his school by noting that students could just as easily suffer injuries while doing farm work. He remarked that no other program or activity in the school's history had "attracted the attention and comment" of the school's fall football season. His decision to support the athletic program was seemingly based on the calculus that the social benefits of football to the students and the school outweighed the potential risk of injury.[51]

Much of the broader public attention the Carlisle Indians team attracted, unsurprisingly, did not result in the hoped-for recognition of Native students as intelligent and civilized, but rather reinforced prevailing stereotypes. "It is an unusual thing to see an Indian bestir himself

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[50] Sally Jenkins, *The Real All-Americans: The Team That Changed a Game, a People, a Nation* (New York: Doubleday, 2007), 122; "News," *The Indian's Friend* 10; 9 (June 1906): 9. *The Indian's Friend* was a periodical published by the Women's National Indian Association, a group of white Christian reformers who sought to acculturate Native Americans. See Lori Jacobson, "'Shall We Have a Periodical?': *The Indian's Friend*," in *The Women's National Indian Association: A History* (Albuquerque: University of New Mexico Press, 2015): 46-61. On the adoption of a sport associated with elite members of a society by relatively marginalized communities, Arjun Appadurai's examination of cricket in India provides an interesting point of comparison. Arjun Appadruai, "Playing with Modernity: The Decolonization of Indian Cricket," in *Consuming Modernity: Public Culture in a South Asian World*, edited by C.A. Breckenridge (Minneapolis: University of Minnesota Press, 1995): 23-48. Appadurai notes that cricket was seen as a way of "implanting English ideals of manliness, stamina, and vigor into Indian groups seen as lazy, enervated and effete."

[51] Sally Jenkins, *The Real All-Americans: The Team That Changed a Game, a People, a Nation* (New York: Doubleday, 2007), 150.

sufficiently to take part in any sort of amusement which is liable to disturb his peaceful serenity, but in the Carlisle Indian School they have a set of young bucks who have taken up the American game of football" opened an 1894 article in the *Washington Post*. In his examination of the connections between beliefs about white manhood and the Carlisle Indian School's football team, American studies researcher Matthew Bentley concluded that with the widespread media and public attention that the students' "performance of civilization" on the football fall received, the players were constantly reminded of their second-status status as Native Americans.[52]

The remarkable contributions of the Carlisle Indian players themselves to the development of modern football have to a significant extent been overshadowed by celebrations of the achievements of their white coach, Pop Warner. Yet the players' experiences are also important to understanding debates about the safety of the sport for children. The Carlisle Indians represent an early and prominent exemplar of how the health risks of football were eclipsed by benefits associated with the sport's spectacle nature in a particular, racialized context. Furthermore, the racial meanings of youth football intersected with ideas about masculinity. Historian Michael Oriard has observed that the issue of what it meant to be a "man" has underlain "virtually every narrative of football." At stake in the Carlisle Indians' matches against white teams was the question of who could be considered civilized gentlemen.[53]

In different ways among various ethnics groups at different periods, tackle football continued to represent a means by which boys from marginalized groups could hope to attain

[52] "Lo, The Poor Indian: C.A.C. Defeats Carlisle Indian School 18 to 0," *Washington Post*; November 25, 1894; Matthew Bentley, "Playing White Men: American Football and Manhood at the Carlisle Indian School, 1893-1904," *Journal of the History of Childhood and Youth* 3;2 (Spring 2010): 187-209.

[53] Michael Oriard, *King Football: Sport and Spectacle in the Golden Age of Radio and Newsreels, Movies and Magazines, the Weekly and the Daily Press* (Chapel Hill, NC: The University of North Carolina Press, 2001), 226.

certain ideals of masculinity and to be assimilated into the prevailing American culture. Notably, at mid-twentieth century, it was believed that football could help "Americanize" children of diverse ethnic backgrounds, as historian Russ Crawford has described in his study of the use of sports such as football to promote an "American Way of Life" during the Cold War. For instance, in 1946, the *Saturday Evening Post* ran a cartoon depicting a football coach telling his players: "Zablotskiwizc, play left half, Karenoftski, right half, Polkontowicz, quarterback, and you, Smith, Smythe, Smitt, however you pronounce it, fullback." This image humorously illustrated the perception that children of a variety of ethnic backgrounds were increasingly playing football.[54] Furthermore, the implied Eastern European background of players' names suggested that football could help bring children into the American mainstream who might otherwise be associated with the "Communist threat." At the college level of play, sociologist Jeffrey Montez de Oca has argued that "college football in the early Cold War was most effective in opening an institutional path to men of ethnic European descent, whether as players or as fans."[55]

Team sports even represented an institutional path to racially integrated activities in high schools where other academic paths remained segregated. For example, an examination of the racial dynamics of high school football programs in South Texas notes a policy of tracking Anglo and Mexican students into different academic curricula (with Mexican Americans placed

[54] Russ Crawford, *The Use of Sports to Promote the American Way of Life During the Cold War,* (Lewiston, New York: The Edwin Mellen Press, 2008): 178-179.

[55] Ted Key, *Saturday Evening Post*; October 19, 1946, 68. Cited in Russ Crawford, *The Use of Sports to Promote the American Way of Life During the Cold War,* (Lewiston, New York: The Edwin Mellen Press, 2008): 49. Jeffrey Montez de Oca, *Discipline and Indulgence: College Football, Media, and the American Way of Life During the Cold War* (New Brunswick, NJ: Rutgers University Press, 2013), 20. For a discussion of juvenile fiction celebrating multi-ethnic football teams in the years after World War II, see Chapter 8, "Ethnicity," in Michael Oriard, *King Football: Sport and Spectacle in the Golden Age of Radio and Newsreels, Movies and Magazines, the Weekly and the Daily Press* (Chapel Hill, NC: The University of North Carolina Press, 2001). See also chapter one for a discussion of Cold War politics and youth football safety debates.

in remedial and vocational courses) at mid-twentieth century. Consequently, entertainment and extracurricular activities such as football often proved one of the limited venues available where racial and ethnic mixing occurred in high schools.[56]

Even in integrated athletic programs, however, students of diverse backgrounds often "stood together but apart." For example, while yearbook photos and rosters depicted racially mixed sports teams, a 1952 shot of spectators at a high school game depicts the Anglo students occupying the front rows together, with the Mexican students immediately behind them. The different groups of students observed the game together while keeping their distance. Furthermore, the time involved in attending games and practices, as well as the expenses associated with participation, still deterred many of the poorest students, including predominantly Mexican migrant workers, from playing football. One man who attended Edinburg High School in Edinburg, Texas, in the late 1960s told researcher Joel Huerta that the inability to afford the cost of student health insurance had prevented him and some of his friends from participating in school athletics. "I just couldn't come up with the twelve bucks or whatever it was. Coach said, 'I'm really sorry, but I just can't let you go on.'"[57]

In the latter half of the twentieth century and into the early twenty-first century, the most dramatic racial shift in youth football has been the increasing participation and visibility of African American youth. Michael Oriard has noted that the transformation of college and professional football to "a multiracial, ultimately black-dominated sport was only beginning by the end of the 1950s." Prior to the integration of school systems in the South and of the NFL, many African American children did play football, but in segregated "Negro" leagues that did

[56] Joel Huerta, "Red, Brown, and Blue: A History and Cultural Poetics of High School Football in Mexican America," (PhD Dissertation, The University of Texas at Austin, 2005).

[57] *Ibid*.

not attract the public attention that their white counterparts received. They also received less financial support and were often far less formally organized. For example, Pat Paterson, a high school coach whose career spanned from 1939 through 1967 and who founded the Negro Interscholastic League, recalled that in the early period of his career, "players were recruited off the sandlots by both players and coaches. It was a common practice back then." After taking over as head coach, Paterson sought to make the program more rigorous and to ensure that only boys who attended school could play.[58]

The desegregation of schools beginning with *Brown v. Board of Education* in 1954 and the civil rights movement of the 1960s had a profound influence on the racial demographics of youth football. To the extent that schools and communities remained segregated, their youth football teams remained segregated, too (see Figure 19 for an example of a relatively racially homogenous youth football team). Furthermore, as historian Lane Demas has observed of football at the college level, the integration and "acceptance of black athletes on the playing field did not translate into equal and adequate opportunities for African American students at integrated colleges." The same can undoubtedly be said for black athletes at the high school level. Nonetheless, these social changes, including the increasing prominence of black football stars on college teams and in the NFL made future football success a more visible possibility for young black boys.[59]

Football increasingly became a means by which black boys could "prove" or legitimize themselves to white-dominated communities and institutions. In 1986, Nand Hart-Nibbrig, a

[58] Michael Oriard, *King Football: Sport and Spectacle in the Golden Age of Radio and Newsreels, Movies and Magazines, the Weekly and the Daily Press* (Chapel Hill, NC: The University of North Carolina Press, 2001), 284; Bill McMurray, *Texas High School Football* (South Bend, Indiana: Icarus Press, 1985), 389.

[59] Lane Demas, *Integrating the Gridiron: Black Civil Rights and American College Football* (New Brunswick, NJ: Rutgers University Press, 2010), 137.

professor of political science and public administration, co-authored an examination of the political economy of college sports in which he recalled his own experiences with football. As a black student at a Catholic high school, he felt heavy pressure from both the coaching staff and several priests to play football for the school. When he decided to cease playing the sport in order to focus on his academic studies at age 16, the head football coach reportedly berated him in front of the student body, stating that "the school did not need or want" a person like him representing it. Hart-Nibbrig reflected that he was, to use Ralph Ellison's term, an "invisible man," "partly because I was black and partly because my real destiny was perceived to lie in throwing a football."[60]

Figure 19. Lincoln-Larimer Panthers, December 1969[61]

[60] Nand Hart-Nibbrig and Clement Cottingham, *The Political Economy of College Sports* (Lexington, MA: D.C. Heath and Company, 1986), x.

[61] The Lincoln-Larimer Panthers football team poses in December 1969 with Head Coach Joe Golden (left), Assistant Coach Al Hollloman, and Assistant Coach Vernon Sanfer. Library & Archives, Senator John Heinz History Center, "Lincoln-Larimer Panthers," Pittsburgh Public Schools Collection, 1880-1982. Digital identifier MSP117.B015.F02.I03. The photo has been copied for use with the permission of the Senator John Heinz History Center, in an email message to author, August 28, 2015. Accessed August 28, 2015 at http://digital.library.pitt.edu/pittsburgh.

Interviews with other black men who played football in their youth suggest the importance the sport represented as a means to status and success in racially marginalized communities. Journalist Robert Andrew Powell interviewed a number of coaches, players and former players in his examination of Pop Warner football in predominantly black, poor areas of Miami, Florida. Powell noted that although he had originally intended to spend most of his time speaking with the children who played the game, after reviewing his notes, "I realized that in talking to the people most invested in Pop Warner football, I'd spent most of my time talking to adults." The title of his book came from an interview with Miami area rapper Luther Campbell who described the importance of football in this community. "We own this game. I mean, you can take whatever you want to take—our land, our housing, our jobs, whatever. But we got our dignity and our pride.[62]

The observations of former youth football player George Knox are also particularly revealing. Born in Jacksonville, Florida, in 1943, Knox grew up in a segregated housing project where he began playing football. He recalled that

> Football was the most popular sport when I was growing up. When it came to following football, blacks in the community knew everything there was to know about the white high schools: who the players were, who the star was, who the mascot was, what the team colors were. We'd read the newspaper and we'd know what [all-white] Landon High School and Jackson High School were doing. On the other side of the *Florida Times-Union* newspaper was all the news 'for and about colored people.' We knew the white population wasn't reading about the activities at my high school or at any black high schools.[63]

As such, George Knox recalled that black players yearned "to demonstrate their skills to the larger population—first to gain respect for their skills, and also to have some recognition of

[62] Robert Andrew Powell, *We Own This Game: A Season in the Adult World of Youth Football* (New York: Atlantic Monthly Press, 2003), xvi, 19.

[63] *Ibid*.

the very existence of the black community." He acknowledged that this desire for recognition and respect went beyond football, but given the deep association between football, schools and broader American culture, youth football became a foremost arena for these aspirations. Knox further emphasized that athletic competition in many respects represented "the only direct opportunity that blacks have to demonstrate excellence, and more importantly, superiority to their white counterparts."[64]

In examining the complex relationship between sport participation in boyhood and masculine identity, sociologists Kevin Young and Philip White have suggested that "to relinquish the opportunity to participate in the sporting rite of passage, or at the very least to identify with sports heroes or teams, is to risk estrangement from other boys." In racially and otherwise marginalized communities, it seems probable that participation in football not only solidified boys' relationships with one another, but also with the broader communities they were expected to represent.[65]

[64] Robert Andrew Powell, *We Own This Game: A Season in the Adult World of Youth Football* (New York: Atlantic Monthly Press, 2003), 114, 118. Football, of course, has not been the only risky activity or occupation in American life through which African American men have striven to assert their manhood and equality. Understanding the ways in which African American men sought to prove themselves through other lauded forms of male accomplishment, and the ways that American attitudes toward these activities has been reconfigured by their changing racial demographics, could prove fruitful in understanding the racial and gender dynamics of youth football. Participation in the U.S. military as soldiers is one possible point of comparison. During the Civil War, the enlistment of free black men as well as former slaves as soldiers was a major point of contention. Major General Howell Cobb famously remarked: "If slaves will make good soldiers our whole theory of slavery is wrong—but they won't make soldiers." Today, African Americans are disproportionately represented in the U.S. Army. Cited in Mark L. Bradley, "'This Monstrous Proposition': North Carolina and the Confederate Debate on Arming the Slaves," *The North Carolina Historical Review* 80; 2 (April 2003): 153-187.

[65] Kevin Young and Philip White, "Researching Sports Injury: Reconstructing Dangerous Masculinities," in *Masculinities, Gender Relations, and Sport*, edited by Jim McKay, Michael A. Messner, and Don Sabo (Thousand Oaks: Sage Publications, 2000): 108-127.

It is also notable that the integration of college and professional football teams converged with the emergence of televised football as the most widely view sport on American television. In his examination of the NFL from 1920 to 1967, historian Craig Coenen observed that by 1960, televised Sunday football games were viewed by as many as 30 million to 50 million Americans watched, "far outpacing the weekly average for any other sport." Coenen further observed that "football seemed to be made for television. In the course of play all twenty-two players were compressed into a small area that could easily be captured by a single camera. In fact, the game proved easier to follow on television than at the stadium." As football became the most popular professional sport in the United States, among other changes, the spectacle nature of the sport moved far beyond local communities. Tackle football became an immensely prominent arena in which marginalized groups including African Americans could display their athletic skills to a large audience.[66]

Quantifying the history of racial and ethnic shifts in youth football is challenging due to the lack of systematic, comparable national data on participation in youth football and race. The National Federation of State High School Athletic Association, which oversees football in the majority of American high schools, has not collected historical data on race in its statistics on participation in high school sports. Neither has USA Football, the national governing body for amateur football in the United States, nor have major little league organizations such as Pop Warner.[67]

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[66] Craig R. Coenen, *From Sandlots to the Super Bowl: The National Football League, 1920-1967* (Knoxville: University of Tennessee Press, 2005): 161-162. See also Chapter 1, "The Creation of the Modern NFL in the 1960s," in Michael Oriard, *Brand NFL* (Chapel Hill, NC: The University of North Carolina Press, 2007).

[67] National Federation of State High School Associations, "Participation Survey History Book." Accessed January 11, 2016 at http://www.nfhs.org/ParticipationStatics/PDF/Participation%20Survey%20History%20Book.pdf. Data

Furthermore, the demographic racial and ethnic shifts in youth football likely occurred at different times in different regions, and the changing racial demographics of particular communities must also be accounted for. For example, in his analysis of high school football in the Wyoming Valley in Pennsylvania, historian Paul Zbiek observed based on team rosters printed in the *Wilkes-Barre Record*, "The number of "New Immigrant" children who embraced the sport in the 1920s is obvious when the team rosters are compared to the lists of the early 1900s. While the first Slavic-Americans did not play until 1908 by the mid-1920s they constitute over forty percent of the players." Nonetheless, Zbiek further cautions that Slavic-Americans did not participate in football in numbers disproportionate to their share of the population, but rather, "the percentage of players from a particular ethnic group was usually equal to the percentage of the group population in the Valley as a whole."[68]

Despite these significant challenges in documenting racial shifts in youth football participation, some available state and local studies suggest high levels of participation of racial minorities, particularly African Americans, in youth football. In 1975, two Michigan state representatives, Senators Carl Pursell and Joseph Snyder, initiated a legislative inquiry into youth sports programs in the state. The special six-member committee was tasked with examining in particular "the actual educational benefits that youth receive from these programs," as well as the medical and legal problems associated with youth sports. The first phase of the study sought to characterize the extent of sports participation by Michigan youth, including free play or recreational sports, school sponsored sports, and agency-sponsored sports (competition between

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available include U.S. state, year, number of participants, number of schools, type of sport played, and gender.

[68] Paul J. Zbiek, "The Importance of High School Sports in Northeastern Pennsylvania: Scholastic Football in the Wyoming Valley," in *The History of Northeastern Pennsylvania: The Last 100 Years* (Nanticoke, PA: Luzerne County Community College, 1989), 32 and footnote 37.

teams, clubs or individuals not sponsored by schools). The study included 89 randomly sampled Michigan school districts from across the state. A combined total of nearly 100,000 student and parent questionnaires were ultimately returned to the researchers from both private and public schools in these districts.[69]

The large sample size in conjunction with the random sampling procedures used meant that researchers considered the study to be representative of children from kindergarten through eleventh grades in the state of Michigan. The researchers also included categories for race as well as other key variables such as age, sex, and community type. While acknowledging that the incidence of participation by race was the most difficult variable to obtain, the researchers reported finding that black participants had the highest percent of participation of all agency-sponsored team sports, with the exception of soccer and ice hockey. Furthermore, the researchers found that participation in agency-sponsored sports among all youth was much higher than they had anticipated. Approximately one of every eight Michigan boys participated in agency sponsored football. The study's findings thus suggested extensive youth participation in football programs outside of schools, particularly high rates of participation among black youth, and very little external oversight of safety in these sports programs. "Clearly, the extent of participation is very large with no control except that of sponsoring agencies."[70]

College demographic data, too, are at least suggestive of a racial shift in which boys were playing youth football as a means to access a college education, a college football career, or

[69] Youth Sports Study Committee, *Joint Legislative Study on Youth Sports Programs* (Lansing, MI: State of Michigan, November 18, 1976).

[70] "The lower return of questionnaires from the Detroit Public School System was the only noteable [*sic*] bias that may have been introduced into the analysis of participation in specific sports, by race." Youth Sports Study Committee, *Joint Legislative Study on Youth Sports Programs* (Lansing, MI: State of Michigan, November 18, 1976), 111, 124.

both. Black college football players at top athletic programs became substantially overrepresented in relation to the racial composition of the student body as well as the overall American population. According to available NCAA data from the turn of the twenty-first century, in the 1999-2000 school year, 51.3 percent of NCAA Division I college football players were white, while 39.5 percent were black. By the 2014-15 school year, a minority (40.2 percent) of Division I football players were white, while 47.1 percent were black.[71]

The increasing value and attraction of a college scholarship was related to the increasing cost of college, as well as the growing corporatization of college athletics. In 1957, the NCAA adopted athletic scholarships, which would enable colleges to bind student-athletes to one-year renewable contracts that depended upon their athletic performance. Success in football was increasingly a means by which otherwise marginalized youth might be able to access a college education. Yet as historian John Sayle Watterson has noted, while colleges depicted their athletic policies as supporting affirmative action for minority groups, the institutions benefited enormously by profiting from athletes' low-paid (or arguably unpaid) labor. Sociologist Robert Turner has observed that this feeling of exploitation on predominantly white college campuses has contributed to black students leaving college early for the NFL. Furthermore, "though athletes are viewed as ambassadors of the college, the demands of big time college football rarely offer time to benefit from school resources in the same fashion as the rest of the student body." Although hopes of a college scholarship heightened the perceived value of football for

[71] By contrast, college coaches and administrators remain predominantly white; in the 2014-2015 academic year, over 80 percent of Division I head coaches and coordinators were white. See Michael Baumann, "The Bleak Future of College Football," *The Atlantic;* November 29, 2015. Accessed December 18, 2015 at http://www.theatlantic.com/entertainment/archive/2015/11/football-risks/416862/

boys of high school and even younger ages, the increased exposure to the physical risks of football for many students did not result in full access to the benefits of higher education.[72]

Football is not the only American sport which has been intimately tied to school or community identity, in which intensive feeder systems have developed, or in which racially and ethnically marginalized communities have perceived potential opportunities for social status and resources denied to them in other aspects of American life. Yet these have all been key features of youth football in the twentieth and early twenty-first century to a remarkable extent, and these factors are crucial to understanding the broader context in which doctors, educators, coaches and parents have understood and weighted the risks and benefits of youth football for young children.

Demographic data as well as testimony from former players and coaches suggest the extent to which the social position of children and their communities shaped debates over the risks and benefits of football, including the sport's spectator nature. Adult-sanctioned play carries particular resonance in an era where children, most especially black children, can be vulnerable to violence while playing on their own. The worst case scenario is exemplified by the 2014 death of Tamir Rice, a 12-year-old black boy killed by a police officer while playing in a playground with an air gun. When unsupervised children can be perceived as suspicious and dangerous, supervised play in a socially valued sport such as football affords a substantial level of social protection. Tackle football can legitimize stereotypes of male aggression and

[72] John Sayle Watterson, *College Football: History, Spectacle, Controversy* (Baltimore: Johns Hopkins University Press, 2000). Robert Winston Turner II, *NFL Means Not For Long: The Life and Career of the NFL Athlete* (PhD Dissertation: The City University of New York, 2010), 58. On the changes in the structure of American college athletics and efforts at reform, see Allen L. Sack, *Counterfeit Amateurs: An Athlete's Journey through the Sixties to the Age of Academic Capitalism* (University Park, PA: The Penn State University Press, 2012) and Ronald A. Smith, *Pay for Play: A History of Big-Time College Athletic Reform* (Urbana and Chicago: University of Illinois Press, 2011).

physicality as a healthy, socially sanctioned activity. This function of youth football carries particular importance for black boys and men who are particularly subject to these stereotypes.

Henry Steele Commager's 1958 depiction of youth football as "burlesque performances" does not account for the extent to which parents and communities believed that participation in youth football conferred serious and substantial benefits to their boys. Nonetheless, it is undeniable that the risks and benefits of youth football were relevant not only to the players themselves, but also to their wider communities. This aspect of youth football was perhaps most compellingly and famously depicted in *Friday Night Lights*, a work of non-fiction that followed the story of a 1988 high school football team in Odessa, Texas. Bob Rutherford, a local realtor in town, casually told the author, "Life really wouldn't be worth livin' if you didn't have a high school football team to support."[73]

[73] H.G. Bissinger, *Friday Night Lights: A Town, a Team, and a Dream* (New York: HarperPerennial, 1991): 20.

Chapter Six. This Is Your Brain on Football: The Framing of a Concussion Crisis

"I hope another player doesn't have to die before all this is taken seriously."
-Dr. James P. Kelly, 1994[1]

"Football is supposed to build a sense of community, and true communities look out for everyone's kids—not out of self-interest, but because it's the right thing to do."
-Michael Baumann, 2015[2]

From Getting "Dinged" to Second Impact Syndrome

In 1976, the NFHS and NCAA both adopted rules prohibiting "spearing," or the deliberate use of the helmet to strike another player. Medical and public health reports attributed subsequent reductions in cervical spinal cord injuries and quadriplegia among high school and college football players to this rule change.[3] Additionally, football-related fatalities largely declined in the 1980s and 1990s; in fact, 1990 was the first and only year since 1931 when the American Football Coaches' Association's annual survey documented no direct fatalities from football.[4]

[1] Michael Farber, "The Worst Case," *Sports Illustrated*; December 19, 1994.

[2] Michael Baumann, "The Bleak Future of College Football," *The Atlantic;* November 29, 2015. Accessed December 18, 2015 at http://www.theatlantic.com/entertainment/archive/2015/11/football-risks/416862/

[3] Joseph S. Torg, Joseph J. Vesgo, Brian Sennett, and Marianne Das, "The National Football Head and Neck Injury Registry: 14-Year Report on Cervical Quadriplegia, 1971 through 1984," *JAMA* 254;24 (1985): 3439-3443; Centers for Disease Control and Prevention, "Football-Related Spinal Cord Injuries Among High School Players-Louisiana, 1989," *MMWR* 39 (1990):586-587. Yet other research indicated that despite the rule change, the actual incidence of spearing did not decrease, and thus the decline in spearing could not account for the decline in high school football injuries resulting in paralysis. See Jonathan F. Heck, "The Incidence of Spearing during a High School's 1975 and 1990 Football Seasons," 31 *Journal of Athletic Trainers* (1996): 31–37. Although the rates of catastrophic, paralyzing injuries declined, the tragedy of such cases nonetheless continued to received significant media attention. See, for example, Frank Hughes, "Few Neck Injuries Still Leave Many Questions for Players, Coaches," *The Washington Post*; November 19, 1993.

[4] Frederick O. Mueller and Robert C. Cantu, *Football Fatalities and Catastrophic Injuries, 1931-2008* (Durham, North Carolina: Carolina Academic Press, 2011).

Although doctors and educators celebrated these trends, many remained concerned about the prevalence of head and neck injuries. The decline in severe football injuries and fatalities helped make it possible for another concern to come into focus: that trauma to players' brains, even if it did not result in death or catastrophic injuries such as paralysis, might still constitute a serious medical problem.

In 1973, *Neurology*, the journal of the American Academy of Neurology, published an article describing several cases of college football players getting "dinged" while playing the sport. Getting "dinged" or "getting your bell rung" were commonly used expressions in tackle football and other contact sports to describe sustaining a hit to the head that might result in temporary confusion or even memory loss, but not loss of consciousness.[5] The article's co-authors, a neurologist and an educational psychologist, cited former professional football player Dave Meggyesy's explanation of getting "dinged" as

> getting hit in the head so hard that your memory is affected, although you can still walk around and sometimes even continue playing. You don't feel pain, and the only way other players or the coaches know you've been dinged is when they realize you can't remember the plays.[6]

The researchers reported on four cases of players experiencing short-term memory loss, as well as six cases of "delayed retrograde amnesia." This referred to instances where players were initially able to recall recent events upon examination immediately after their injury, but they permanently lost the information within minutes of being examined. This suggested that despite retaining consciousness and demonstrating immediate recall ability, a consequence of

[5] For an example of the colloquial use of the phrase "bell rung" to distinguish a hit to the head from actual medical harm, a character in one 1992 novel states, "Brain damage? Hell no. He just got his bell rung, as they say in football." Sheila Bosworth, *Slow Poison: A Novel* (New York: Alfred A. Knopf, 1992): 297.

[6] Philip R. Yarnell and Steve Lynch, "The 'Ding': Amnestic States in Football Trauma," *Neurology* 23;2 (1973): 196-197; Dave Meggyesy, *Out of Their League* (Berkeley, CA: Ramparts Press, Inc., 1970), 125.

getting "dinged" might include impairment of short-term memory consolidation. Based on their findings, the authors of this article recommended that in order to assess "mild concussions," physicians should not ask players questions that evaluated their immediate memory or cognition, such as asking how many fingers they were holding up. Instead, they should ask athletes several questions related to recently experienced events, such as "Where did you go after you left the playing field? What are some of your plays and assignments for this game?"[7]

Although physicians recognized that players could sustain a concussion while retaining consciousness, such concussions were considered mild, and athletes very rarely sought medical attention for getting "dinged." Consequently, studying the incidence of concussions was challenging. Simply relying on hospital data would result in a serious underestimate. Another significant problem for epidemiologists was that there was no universally agreed upon definition of concussion, let alone how to categorize different degrees or "grades" of concussion.

There had been efforts at standardization. For example, in 1966, the American Medical Association's first standard nomenclature of athletic injuries defined an acute cerebral concussion as a clinical syndrome characterized by immediate "impairment of neural function" that was caused by a "direct blow to head or helmet." The AMA further characterized three degrees of concussion: mild, moderate, and severe. According to this classification system, mild

[7] Philip R. Yarnell and Steve Lynch, "The 'Ding': Amnestic States in Football Trauma," *Neurology* 23;2 (1973): 196-197. See also Steve Lynch and Philip R. Yarnell, "Retrograde Amnesia: Delayed Forgetting After Concussion," *American Journal of Psychology* 86; 3 (September 1973): 643-645.

and moderate concussions resulted in only transient impairment, whereas a severe concussion might cause protracted impairment.[8]

Yet these definitions were repeatedly contested. In 1969, two neurosurgeons, including Dr. Richard Schneider, whose research had suggested important limitations to football helmet design (see chapter three), noted that for years most neurosurgeons had used the term concussion to involve a state of unconsciousness. Yet loss of consciousness was not necessary for a concussion to occur, these doctors observed, and other symptoms could be equally important. They granted that the AMA's 1966 classification system sought to enhance physicians' ability to make practical decisions about treating injuries to football players, but stated that its categories were arbitrary. In fact, they added, "the diagnosis of concussion has been so confusing that the British neurosurgeons recently have recommended abandoning its use." The confusion did not abate over the ensuing decades. A 2001 review article described eight different grading systems of concussions that had been proposed over the previous several decades. The range of definitions in use through the end of the twentieth century made evaluating or comparing data across different epidemiological studies difficult.[9]

In 1983, public health researcher Dr. Susan Goodwin Gerberich led one of the first large-scale studies of concussions in high school football players, in an effort to estimate the incidence of concussion at this level of play. To address the problem that hospital records would not capture most cases of football concussions, her team instead mailed questionnaires to head

[8] Subcommittee on Classification of Sports Injuries, Committee on the Medical Aspects of Sports, *Standard Nomenclature of Athletic Injuries* (Chicago: American Medical Association, 1966), 20.

[9] Richard C. Schneider and Frederick C. Kriss, "Decisions Concerning Cerebral Concussions in Football Players," *Medicine and Science in Sports* 1;2 (June 1969): 112-115; Robert C. Cantu, "Posttraumatic Retrograde and Anterograde Amnesia: Pathophysiology and Implications in Grading and Safe Return to Play," *Journal of Athletic Training* 36; 3 (2001): 244-248.

coaches and players associated with over 100 varsity high school football teams in Minnesota. The questionnaire asked players if they had lost consciousness as a result of a blow to their head, or experienced other symptoms such as brief loss of awareness, headaches, dizziness, or blurred vision during the fall 1977 football season.[10]

Gerberich and her colleagues found that while only about two percent of players reported having diagnosed concussions in conjunction with a head injury, nearly seven times as many players reported experiencing loss of consciousness or loss of awareness. Including these latter symptoms to indicate probable concussions resulted in an estimated rate of about one in five players sustaining at least one probable concussion over the course of one football season. They also reported that players with a prior history of losing consciousness had a four times higher risk of losing consciousness as compared to players without such a history. While differences in players' activity levels or willingness to report symptoms may have accounted for some of this difference, Gerberich's team concluded that this result also implied the need to devote care to identifying previous concussions when taking players' pre-season medical histories.[11]

The use of questionnaires in this study likely facilitated reporting by offering respondents confidentiality. Yet, as the researchers noted, the true incidence and severity of concussions would probably remain unknown without actual observation and examination of participants in sports who experienced symptoms of a possible concussion by trained health professionals. Furthermore, over two-thirds of the players who had experienced loss of consciousness returned to play the same day. Many respondents reported that they had wanted to continue playing, so

[10] Susan Goodwin Gerberich et al., "Concussion Incidences and Severity in Secondary School Varsity Football Players," *American Journal of Public Health* 73;12 (1983): 1370-1375.

[11] *Ibid.*

they did not tell anybody about their symptoms. “Better understanding of risks, by both players and coaches, is clearly in order,” the researchers concluded.[12]

In addition to epidemiological research suggesting that concussions were far more common than the number of hospital diagnoses would indicate, new medical reports were also sounding alarms about previously unappreciated risks of football-related head trauma. A 1984 case report in the *Journal of the American Medical Association* suggested that a concussion might make athletes far more vulnerable to potentially severe consequences of a second brain injury. In this article, a neurologist and a neurosurgeon reported on the death of an otherwise healthy 19 year-old college freshman football player. The student had collapsed “despite accounts of no unusual head trauma” after being involved as a blocker in a running play. He went into a coma and was placed on a ventilator. Despite an operation that sought to reduce the swelling in his brain, he never regained consciousness and died several days later.[13]

Disturbed by this seemingly inexplicable death, doctors made inquiries with the deceased player’s family, teammates and coaches. Four days prior to his collapse on the field, they learned, the young athlete had briefly lost consciousness following a hit to the head sustained during a fistfight. He claimed to have only a mild headache several days following the hit, and had thus been given permission to return to play. The doctors suggested that this previous head trauma might have made the football player far more susceptible to brain injury in the following days than he would have been otherwise. As such, they warned that even seemingly “ordinary sports violence might precipitate catastrophic brain swelling.” The doctors wrote that this

[12] Susan Goodwin Gerberich et al, “Concussion Incidences and Severity in Secondary School Varsity Football Players.”

[13] Robert L. Saunders and Robert E. Harbaugh, “The Second Impact in Catastrophic Contact-Sports Head Trauma,” *JAMA* 252; 4 (1984): 538-539.

"second impact" phenomenon, while apparently rare, nonetheless raised serious questions about the safety of football, and the risks warranted "a more critical view of the adequacy of clinical assessment after minor head injuries in contact sports." Furthermore, if some players could be identified as being at increased risk, they might need to be instructed to avoid further impact to protect them from harm.[14]

One of the readers of this article was Dr. Robert Cantu, a neurosurgeon involved in football as a parent and as a doctor. He had a young son who played in the Pop Warner league, and he also served as a sideline physician for high school football team in and around Concord, Massachusetts. As writers Linda Carroll and David Rosner would dramatically recount in their 2010 book *The Concussion Crisis*, reading about this "second impact" syndrome greatly affected Dr. Cantu. "Cantu realized that if he missed a concussion today, some kid might get bumped next week and die." Dr. Cantu was particularly concerned about the many youth football games where neither a physician nor an athletic trainer was present to watch out for head trauma on the field. In 1986, only five percent of American high schools employed athletic trainers, according to the National Athletic Trainers Association, and many were uncertified. As the chairman of the New York State Athletic Trainers' Association colorfully observed, "In New York, we're talking Joe service-station attendant who goes to games on Saturday and calls himself the trainer."[15]

To address the dangers, Cantu believed that coaches as well as medical personnel needed guidelines they could rely on to determine when players could safely return to participating in

[14] Robert L. Saunders and Robert E. Harbaugh, "The Second Impact in Catastrophic Contact-Sports Head Trauma," *JAMA* 252; 4 (1984): 538-539; Linda Carroll and David Rosner, *The Concussion Crisis: Anatomy of a Silent Epidemic* (New York: Simon & Schuster, 2011).

[15] Linda Carroll and David Rosner, *The Concussion Crisis: Anatomy of a Silent Epidemic* (New York: Simon & Schuster, 2011), 14; Rich Cimini, "Having HS Trainers: What Price for Safety?" *Newsday*; November 23, 1986.

sports. Although there were no formal, standardized guidelines at the time, many physicians already discouraged players from continuing to play in football after sustaining three concussions. Dr. Augustus Thorndike, a leader in the development of sports medicine (see chapter two), had proposed this policy in a 1952 article describing contraindications to further participation in sport. Dr. Thorndike had further advised that patients "with more than momentary loss of consciousness at any one time should not be exposed to further body-contact trauma." The selection of three concussions as a cut-off point was arbitrary. Nonetheless, this informal policy proved influential: it was adopted by many physicians, and was promulgated and debated in medical journals in the ensuing decades.[16]

Some specialists considered Thorndike's recommendations to be unduly conservative. For example, in a 1959 symposium issue on sports injuries, two neurosurgeons disagreed with Thorndike that three or more concussions should necessarily represent a contraindication to further participation in contact sports, because the severity of brain trauma was a "highly individualized matter" that needed to be decided on a case by case basis. After careful study of an individual patient, "if no evidence of damage to the brain is found, we do not believe that they would take any greater risk in engaging in contact sports than other athletes who have not had such injuries." By contrast, other experts emphasized a more conservative approach. While they agreed that three concussions should result in a player being removed from play for a season, they warned that even a single severe concussion might warrant removing an athlete from any further play.[17]

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[16] Augustus Thorndike, "Serious Recurrent Injuries of Athletes: Contraindications to Further Competitive Participation," *New England Journal of Medicine* 247; 15 (1952): 554-556.

[17] Francis Murphey and James C.H. Simmons, "Initial Management of Athletic Injuries to the Head and Neck," *American Journal of Surgery* 98;3 (1959): 379-383; Richard C. Schneider and Frederick C. Kriss, "Decisions

By 1980, a review of football head and neck injuries observed that while no hard-and-fast rules could be made, it was "generally agreed upon" that "three severe concussions sustained in football automatically should prohibit the player from participating in football again." Cantu would agree with all these specialists that ultimately a physician's clinical judgment, rather than strict adherence to any particular guideline, would need to determine the management of any individual player's concussion. Yet he also believed that easy, practical guidelines that could be applied on-the-field were necessary to improve the management of concussions, and that the issue was urgent. He depicted concussions as a serious medical and public health concern. Citing Gerberich and her colleagues' research, Cantu observed that one in five high school football players experienced a concussion every year, that some studies suggested that the effects of concussions might be cumulative, and that the discovery of "second impact syndrome" in particular should make physicians wary.[18]

Thus, in 1986, Cantu published the first written guidelines on when athletes could return to play after a concussion, based on the degree and number of concussions they had sustained. For example, Cantu proposed that after one mild concussion, athletes could return to play if they were asymptomatic after one week, but after a severe concussion, they would need to wait a minimum of one month. His guidelines were influenced by Thorndike's initial proposal, which Cantu cited when explaining his recommendation that three mild concussions should terminate an athlete's season. Published in *The Physician and Sportsmedicine*, these guidelines were above

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Concerning Cerebral Concussions in Football Players," *Medicine and Science in Sports* 1;2 (June 1969): 112-115. Schneider and Kriss cited a personal communication from Dr. Thomas Quigley, another sports medicine specialist, as also supporting the policy of removing players from further participation for a season after three concussions.

[18] Joseph C. Maroon, Paul B. Steele, and Ralph Berlin, "Football Head and Neck Injuries—An Update," *Clinical Neurosurgery* 27 (1980): 414-429; Robert C. Cantu, "Guidelines for Return to Contact Sports after a Cerebral Concussion," *Physician and Sportsmedicine* 14 (1986):75–83.

all intended to highlight the need to take concussions seriously. Yet there were no research studies supporting any of the particular return-to-play timelines that Cantu described. In fact, Dr. Cantu later acknowledged that the recovery times he had proposed were "pure seat of the pants."[19]

A Silent Epidemic

In addition to the emerging literature on "second impact" syndrome that concerned Dr. Cantu, scientists were accumulating evidence that even minor or moderate head injuries could cause structural changes in the brain. In 1968, a British neuropathologist had reported microscopic lesions to the brain in several patients who had sustained head trauma but died of non-neurological causes. Notably, five of these patients had sustained concussions, described as "clinically trivial" brain injuries. Yet it was impossible to examine these changes in the brains of living people, and because patients did not typically die of minor head injuries, it was not feasible to conduct routine postmortem studies of these structural changes.[20]

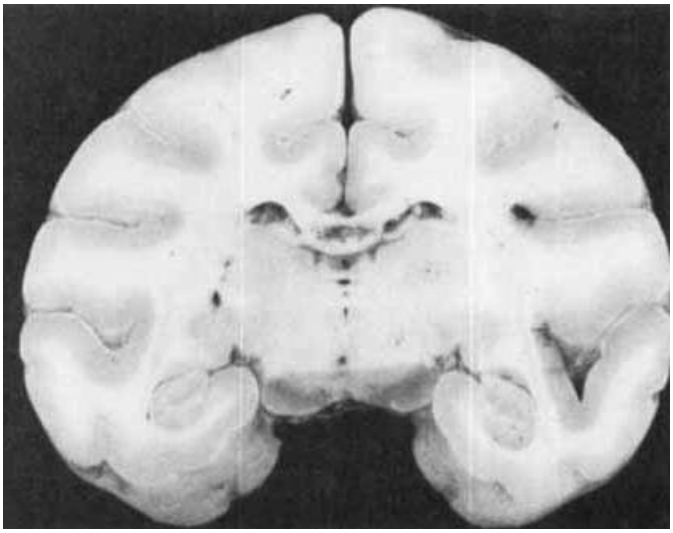
In the 1980s, however, studies of concussions in monkeys provided substantiating evidence that the rotational forces associated with even "mild" head trauma could induce microscopic damage in primates' brains (see Figure 20). In addition to these findings in animal research, epidemiological studies of minor head trauma in humans were also raising concerns. Notably, a 1981 study of over 400 patients who had sustained minor head trauma (defined as a

[19] Robert C. Cantu, "Guidelines for Return to Contact Sports after a Cerebral Concussion," *Physician and Sportsmedicine* 14 (1986): 75–83; Linda Carroll and David Rosner, *The Concussion Crisis: Anatomy of a Silent Epidemic* (New York: Simon & Schuster, 2011), 15; "SL Interview: Dr. Robert Cantu speaks out about concussions in youth sports," *SportsLetter* October 1, 2012. LA84 Foundation. Accessed May 19, 2013 at: http://www.sportsletter.org/sportsletter/2012/10/sl-interview-dr-robert-cantu-speaks-out-about-concussions-in-youth-sports.html.

[20] David R. Oppenheimer, "Microscopic Lesions in the Brain Following Head Injury," *Journal of Neurology, Neurosurgery & Psychiatry* 31 (1968): 299-306.

history of unconsciousness of 20 minutes or less in this study) found a high incidence of symptoms and difficulties on follow-up three months after injury. Over three-quarters of the patients reported persistent headaches, and over half described problems with memory. Furthermore, of those who had been gainfully employed, one-third were unemployed three months later. Although many of these patients had experienced significant life stress prior to their head injury, these findings were nonetheless disturbing. The authors concluded that "the most striking observations of these studies are the high rates of morbidity and unemployment in patients 3 months after a seemingly insignificant head injury and the evidence that many of these patients may have, in fact, suffered organic brain damage."[21]

Figure 20. Structural Changes to Primate Brain Following Concussion[22]



[21] Thomas A. Gennarelli, Lawrence E. Thibault, J. Hume Adams et al., "Diffuse Axonal Injury and Traumatic Coma in the Primate," *Annals of Neurology* 12 (1982): 564-574; Rebecca W. Rimel, Bruno Giordani, Jeffrey T. Barth et al., "Disability Caused by Minor Head Injury," *Neurosurgery* 9;3 (1981): 221-228. See also John T. Povlishock and Thomas H. Coburn, "Morphological Changes Associated With Mild Head Injury," in *Mild Head Injury*, edited by Harvey S. Levin, Howard M. Eisenberg, Arthur L. Benton (New York: Oxford University Press, 1989): 37-53.

[22] This image depicts numerous small foci of hemorrhage in the corpus callosum of a primate's brain after the animal was subjected to lateral acceleration of its head. Figure 4 of Thomas A. Gennarelli, Lawrence E. Thibault, J. Hume Adams et al., "Diffuse Axonal Injury and Traumatic Coma in the Primate," *Annals of Neurology* 12 (1982): 564-574. Reproduced with permission of John Wiley & Sons, Inc. License number 3797241425645.

The *Wall Street Journal* reported on this research in a front page article dubbing head injuries a "silent epidemic." The write-up noted that new technologies such as CAT scanners were able to detect brain damage that had previously gone unrecognized, but that the frequent absence of obvious symptoms continued to pose a challenge. One physician was quoted as saying, "For the most part, we're dealing with people who look and act pretty much all right. This leads a lot of physicians to write off their complaints as psychosomatic, and insurance companies and government-medical bureaucrats to look askance at their requests for benefits." The article concluded by observing that most research for rehabilitation programs for patients with head injuries was of recent origin and had focused on Vietnam veterans, but that a few small, intensive, and costly programs for head-injured patients were beginning to be developed.[23]

Yet these studies and early media coverage of a "silent epidemic" did not immediately translate into changes in clinical practice. In fact, Dr. Jeffrey Barth, a neuropsychologist who was a co-author on the 1981 study of patients with mild head trauma, would later recall the day he presented those findings at a conference as one of his worst professional experiences. His audience was skeptical of the results he shared. They peppered him with many possible alternative explanations: perhaps the patients he was testing were not very smart to begin with, or maybe they didn't return to work because they had an excuse from their doctor. Barth recalled, "I thought to myself: How can I get out of this? Maybe I can fake a seizure."[24]

As two ESPN reporters would later put it, at the time, concussions were still regarded "as the neurological equivalent of a stubbed toe." In a 2005, a clinical neuropsychologist recalled

[23] Frederick C. Klein, "Silent Epidemic: Head Injuries, Often Difficult to Diagnose, are Getting Attention," *Wall Street Journal*; November 24, 1982.

[24] Mark Fainaru-Wada and Steve Wainaru, *League of Denial: The N.F.L., Concussions, and the Battle for Truth* (New York: Random House, 2013).

that through the 1980s, trauma physicians were still primarily focused on severe brain trauma. They typically discharged patients with minor head injuries within an hour, with no recommendation for follow-up. He thus dubbed the 1980s "the decade of the severe TBIs," with the 1990s as the period when seemingly minor forms of brain injury gained greater attention from clinicians. In 1989, Dr. Barth contributed a chapter on head injuries in sports in the first published book devoted specifically to mild brain injury. He and his colleagues observed that given the relatively limited and controversial state of scientific knowledge about mild head trauma, and the reluctance of athletes to report seemingly minor injuries, "it is not surprising that mild head injury has not been a principal concern of most athletes or their institutions and organizations."[25]

Yet these emerging scientific findings and the introduction of Cantu's preliminary return-to-play guidelines contributed to the beginnings of a shift in attitude to head injuries that had previously been considered of little importance. Another factor that may have added to the increasing awareness among trainers and physicians of non-fatal injuries in the 1990s was an increase in the number of children playing youth sports generally, including tackle football. Much of the rise in youth sports participation in the final decades of the twentieth century was due to more girls playing sports following changes to school athletic programs required by Title

[25] Mark Fainaru-Wada and Steve Wainaru, *League of Denial: The N.F.L., Concussions, and the Battle for Truth* (New York: Random House, 2013), 32; Jeffrey T. Barth, Wayne M. Alves, Thomas V. Ryan, et al., "Mild Head Injury in Sports: Neuropsychological Sequelae and Recovery of Function," in *Mild Head Injury*, edited by Harvey S. Levin, Howard M. Eisenberg, Arthur L. Benton (New York: Oxford University Press, 1989): 257-275; Ronald Ruff, "Two Decades of Advances in Understanding of Mild Traumatic Brain Injury," *Journal of Head Trauma Rehabilitation* 20;1 (2005): 5-18.

IX. But the numbers of boys participating in high school athletics also increased, with football consistently remaining one of the most popular sports for boys.[26]

Historian Howard Chudacoff has argued that the expansion of organized sports was part of a broader trend toward adult-organized activities for children, such as language programs, music lessons, and math and science after-school clubs. Sociologist Hilary Levey Friedman has dubbed the period from the 1980s to the present as an "explosion of hypercompetitiveness" with the professionalization of youth sports. Friedman identified three key ways in which this professionalization was manifested: the development of elite programs such as travel leagues and Olympic development programs; the rise of paid youth coaches and specialized trainers; and the emergence of the year-round season with children playing the same sport throughout the year.[27]

In 1991, two sports medicine specialists reported that they had both witnessed an increase in sports-related injuries among children in their practice along with this increasing participation in adult-organized athletics. Furthermore, they had observed a changing pattern of injuries, with an increased number of overuse injuries related to the repetitive trauma experienced by children training in a single sport discipline. With more participants in team sports, often playing in more intensely competitive programs, changes in scientific and medical understandings of head trauma

[26] According to the NFHS, National Federation of State High School Athletic Associations, from the 1990-1991 school year to the 2000-2001 school year, the total number of participants in high school athletics per school year increased by about 1.4 million; nearly 900,000 of these additional participants were girls. "Sports Participation Survey," Accessed January 28, 2016 at http://www.nfhs.org/ParticipationStatics/PDF/Participation%20Survey%20History%20Book.pdf. On the influence of Title IX on high school sports, see Betsy Stevenson, "Title IX and the Evolution of High School Sports," *Contemporary Economic Policy* 25;4 (2007): 486-505. See also Donald Huff, "Athletic Participation on Increase after Years' Long Decline," *Washington Post*; October 1, 1991; Hal Bock, "Prep Athletes Still at Risk," *Seattle Times*; October 6, 1991. Accessed January 28, 2016 at http://community.seattletimes.nwsource.com/archive/?date=19911006&slug=1309237.

[27] Howard Chudacoff, *Children At Play: An American History* (New York: New York University Press, 2007); Hilary Levey Friedman, *Playing to Win: Raising Children in a Competitive Culture* (Berkeley: University of California Press, 2013).

occurred in the context of broader attention to other, relatively new types of sports injuries among children.[28]

By the 1990s, a number of physicians and athletic trainers increasingly questioned the common practice of returning players to the field shortly after they had gotten their "bell rung." In 1991, a team of physicians observed that repeated concussions could lead to cumulative neurological deficits and even death in rare cases, and warned against the common misconception that forces strong enough to cause loss of consciousness were necessary to produce a concussion. They described the case of a 17 year-old high school football player who died of brain swelling after sustaining multiple concussions, although he had not lost consciousness in conjunction with his previous brain injuries. This case report was consistent with previously documented cases of "second impact" syndrome. The doctors thus recommended that players experiencing confusion and amnesia after a head injury, even if they did not lose consciousness, should be removed from play for at least a day. They should then be re-examined the following day, and permitted to return only after one full week without symptoms.[29]

Eric Zemper, a researcher who helped design the NCAA's Injury Surveillance System in the 1980s, also urged a more cautious approach to even minor head injuries. In his 1994 study of concussions among college football players, he reported that athletes with any history of concussions in the previous five years were six times more likely to sustain a concussion than those without such a history. This was an even higher increased risk than Gerberich's team had found among high school students with a history of concussion, likely due to methodological

[28] Lyle J. Micheli and J.D. Klein, "Sports Injuries in Children and Adolescents," *British Journal of Sports Medicine* 25;1 (1991): 6-9.

[29] James P. Kelly, John S. Nichols, Christopher M. Filley, et al., "Concussion in Sports: Guidelines for the Prevention of Catastrophic Outcome," *JAMA* 266; 20 (1991): 2867-2869.

differences between the studies, particularly differences in how they defined concussions. As a result of this risk, Zemper argued that a more conservative approach to concussion management was necessary, and that athletic trainers would likely need to bear the burden of resisting pressure to return athletes to play as quickly as possible. Zemper would later recall, "For about 15 years, every paper I published ended with a statement that we really need to seriously rethink this practice of sending players back into the game as soon as they can see straight."[30]

Yet physicians' and trainers' beliefs about what constituted "serious" versus "minor" concussions, let alone how to manage them, remained in flux throughout the 1990s. In a discussion of changing attitudes toward these injuries, one pediatric neurologist told the *New York Times* in 1997 that even just a few years earlier,

> if a high school athlete had a collision and a minor concussion, he passed out for two or three minutes and was dizzy for just a few days, we'd say, 'No big deal,' and let him return to play ball. We never thought there would be a problem. But now it has come to the forefront that there is a cumulative effect from repetitive concussions, and at the same time a problem within the medical community developing a consensus on managing athletes with these injuries.[31]

These remarks indicate growing appreciation of the cumulative risks of repeated head injuries, yet the neurologist nonetheless continued to describe as "minor" a concussion where an athlete had lost consciousness and experienced persistent symptoms for several days thereafter. Meanwhile, that same year, the American Academy of Neurology (AAN) issued its first

[30] Eric D. Zemper, "Analysis of Cerebral Concussion Frequency with the Most Commonly Used Models of Football Helmets," *Journal of Athletic Training* 29 (1994):44-50; Austin Meek, "No Denying His Work on Concussions," *Register-Guard* [Eugene, OR]; December 25, 2015. Accessed January 26, 2016 at http://registerguard.com/rg/sports/33890906-81/no-denying-his-work-on-concussions.html.csp. Meek's article also includes an overview of Zemper's background and career.

[31] Linda Saslow, "Head Injuries Force Schools to Ponder Policy," *New York Times*; May 11, 1997.

guidelines for the management of concussion in sports, in which loss of consciousness was explicitly associated with the most severe form of concussion (grade 3).[32]

The AAN's 1997 practice parameters categorized concussions into three grades with a number of similarities to Dr. Cantu's 1986 guidelines. Indeed, Dr. Cantu was one of the physicians who reviewed these AAN guidelines for when athletes ought to be withheld from play according to the severity of the concussion. After a grade 1 concussion, where players experienced transient symptoms such as temporary confusion, athletes could be returned to play within 15 minutes if their symptoms cleared. After a grade 2 concussion, which did not involve loss of consciousness but where symptoms did not resolve after 15 minutes, players needed to be removed from play and could return only after one asymptomatic week. Players with multiple grade 2 concussions could return to play after two asymptomatic weeks, while players with multiple grade 3 concussions involving loss of consciousness would need to wait one month or longer, depending on the physician's clinical judgment.[33]

The development of the AAN guidelines was based upon a process of consensus building among experts in sports-related concussions, including physicians, research faculty, athletic trainers, and paramedics. These specialists recognized, however, that there was very little scientific evidence on which to base their medical guidelines for determining if or when athletes should be allowed to return to play. As a review of the process acknowledged, "there is still no consensus or data to guide the decision with regard to the question, 'how many concussions are

[32] American Academy of Neurology, "Practice Parameter: The Management of Concussion in Sports (Summary Statement). Report of the Quality Standards Subcommittee," *Neurology* 48 (1997): 581-585.

[33] American Academy of Neurology, "Practice Parameter: The Management of Concussion in Sports (Summary Statement). Report of the Quality Standards Subcommittee," *Neurology* 48 (1997): 581-585. See also James P. Kelly and Jay H. Rosenberg, "Diagnosis and Management of Concussion in Sports," *Neurology* 48 (1997):575–80.

too many?'" In the absence of data, the guidelines promulgated by both Cantu and the AAN signified increased awareness that repeated head trauma might cause cumulative harm. But these recommendations were put forward with great uncertainty on how to minimize that potential harm on the ground, and emphasized the need for future research.[34]

Moreover, some educators noted that enforcing the guidelines would prove far more difficult than proposing them. The concerns of researchers were difficult to translate into changing attitudes and practices on the gridiron, particularly without personnel available to enforce adherence to the guidelines. As John Laurine, a high school director of athletics, observed in a *New York Times* article, many high schools still lacked a medical trainer or other trained health professional to evaluate students who experienced a possible concussion. Furthermore, many players and their parents prioritized keeping athletes on the field. Parents, according to Laurine, were concerned about their child losing their spot on the team or the potential for a college scholarship or financial aid. High school athletes, meanwhile, wanted to be "tough" and not admit to injury. They were thus were reluctant to report concussions to team coaches, and were inclined to minimize such injuries as "just another bang on the head."[35]

NFL and Youth Football

While doctors and athletic trainers increasingly worried about how to protect child athletes from head injuries, their young charges were watching their sports heroes repeatedly bang their heads on TV. By the late twentieth century, NFL matches were one of the most popular sources of entertainment in the United States. The league dominated American

[34] James P. Kelly and Jay H. Rosenberg, "The Development of Guidelines for the Management of Concussion in Sports," *The Journal of Head Trauma Rehabilitation* 13;2 (1998): 53-65.

[35] Linda Saslow, "Head Injuries Force Schools to Ponder Policy," *New York Times*; May 11, 1997.

televisions; since 1990, Monday Night Football games ranked among the highest-rated prime-time television programs every year. By 2005, the NFL was grossing nearly $5 billion a year, with its teams on average worth more than double the average value of clubs in other major professional sports leagues such as the NBA, NHL and MLB. In 2006, a sports economist would observe that "football stands like a colossus across the landscape of American sports."[36]

The NFL juggernaut strongly influenced debates over the safety of youth football in several ways. Injuries among NFL players were frequently the most visible and dramatic examples of the most serious dangers of football. Because NFL players were role models to youth football players, their attitude toward their injuries and decisions about when to return to play were held up as worthy of emulation. Indeed, major sports media celebrated the concept of athletes playing through pain and injuries. In 1993, a sociologist analyzed such articles in *Sports Illustrated*, and contended that when athletes were pressured or socialized to view injuries as an inevitable or even attractive part of the game, the players themselves could be among the strongest opponents of safety measures. "Athletes may find it difficult to escape the hold of the culture of risk and related structural influences . . . . and even take pride in their pain threshold as proof of their character as athletes, their dedication to the team, and, at least for some males, their masculinity."[37]

The NFL reinforced this culture of risk. The league's responses to these injuries—from the ways they described them to the press, to the common practice of cutting away from shots of

[36] Craig R. Coenen, *From Sandlots to the Super Bowl: The National Football League, 1920-1967* (Knoxville: University of Tennessee Press, 2005): 232; Michael Leeds, "American Football," in *Handbook on the Economics of Sport*, ed. by Wladimir Andreff and Stefan Szymanski (Northampton, MA: Edward Elgar Publishing, Inc.: 2006): 514-522.

[37] Howard L. Nixon, "Accepting the Risks of Pain and Injury in Sport: Mediated Cultural Influences on Playing Hurt," *Sociology of Sport Journal* 10 (1993): 183-196.

injured players during televised matches for commercial breaks, to the glorification of violent collisions with promotional videos such as "The N.F.L.'s Greatest Hits"—were seen and read by millions of Americans. In 1998, former NFL linebacker Harry Carson wrote a letter to the *New York Times* warning that "the glorification of the Big Hit by television networks and periodicals only fans the flame and encourages younger players to strive to make the hits that will be featured on 'SportsCenter.'"[38]

In addition to its celebrations of collisions that were featured across the American media landscape, the NFL's research on brain injuries in football would influence understandings of the sport's risks at all levels. In the early 1990s, the NFL found itself under scrutiny after a spate of high-profile head injuries among its prominent athletes, making concussions "the most highly-publicized injury of the 1994 season." A 1994 story in *Time Magazine* explained that at least 40 concussions had occurred among NFL players that year,

> and in the past six weeks the casualties have included an unusually large number of highly paid stars. Even in a sport long admired and abhorred for its body-crunching brutality, concern about the carnage is rising. Players, coaches and fans may never forget some of this season's scariest images: the vacant, confused stare of Dallas Cowboys quarterback Troy Aikman after he collided chin-first with a blitzing Phoenix Cardinal; the sight of Buffalo Bills receiver Don Beebe lying, out cold, on the field, with one forearm pointed stiffly into the air; the awful stillness of New York Giants quarterback Dave Brown after his head was slammed to the turf by a Houston Oilers linebacker.[39]

Perhaps most notably of all, in October 1994, Merril Hoge retired from the NFL at age 29 after sustaining multiple concussions that left him experiencing a range of symptoms, including headaches, dizziness, numbness, and memory problems. *Time Magazine* highlighted that Hoge's

[38] Gerald Eskenazi, "Pro Football: Experts Disagree on Football Injury Prevention," *New York Times*; December 2, 1992; Harry Carson, "Concussions: The Hidden Injury," [Letter] *New York Times*; April 19, 1998.

[39] David E. Thigpen and Julie Grace, "Chin Music: Doctors Warn That Relentless Blows to the Head May be Giving Football Players Lasting Brain Damage," *Time Magazine*; December 12, 1994, p. 71-72.

departure from the game had focused attention not only on the risks to players' careers, but also on the threat to their long-term health. The story cited experts who warned that concussions could result in serious consequences. "The brain is shaken in the cranium much like Jell-O in a bowl," explained Dr. Cantu.[40] In other news stories on football head injuries that season, several brain injury specialists sounded similar warnings. The director of a brain injury rehabilitation program told *Sports Illustrated* that head injuries in football were not treated with the seriousness they warranted:

> It isn't just cataclysmic injury or death from brain injuries that should concern people. The core of the person can change from repeated blows to the head. I get furious every time I watch a game and hear the announcers say, 'Wow, he really got his bell rung on that play.' It's almost like, 'Yuk, yuk, yuk,' as if they're joking. Concussions are no joke.[41]

In response to the flurry of concern and unflattering media attention, in 1994, the commissioner of the NFL appointed a committee to study mild traumatic brain injuries (mTBI). As one essayist would later observe on the formation of this committee, "we might pause here a moment to linger upon the spooky propagandistic frisson produced by the juxtaposition of those two words: *mild*, *traumatic*." Most of the committee was composed of NFL insiders, including team doctors, trainers, a consulting engineer, and an equipment manager. The appointed chairman of the committee, New York Jets team doctor Dr. Elliot Pellman, was a rheumatologist

[40] David E. Thigpen and Julie Grace, "Chin Music: Doctors Warn That Relentless Blows to the Head May be Giving Football Players Lasting Brain Damage," *Time Magazine*; December 12, 1994, p. 71-72; Jerry Crasnick, "Dazed and Confused: Merril Hoge and Other Veterans are Finding Out Why Concussions Have Become Serious Head Games," *Denver Post*; November 20, 1994; Laura Vecsey, "Post-Concussion Syndrome Turns Heads in NFL," *Seattle Post-Intelligencer*; October 28, 1994; Alexander N. Hecht, "Legal and Ethical Aspects of Sports-Related Concussions: The Merril Hoge Story," *Seton Hall Journal of Sport Law* 12 (2002): 17-64.

[41] Dr. James P. Kelly, quoted in Michael Farber, "The Worst Case," *Sports Illustrated*; December 19, 1994. Kelly also told *Sports Illustrated* that concussions definitely had a cumulative effect, while NFL team doctor Joe Torg asserted, "I know of no football player who has had residual neurological impairment from repeated insults to the head." Torg claimed that "punch-drunk" syndrome in boxers did not apply to football, because football players were rarely knocked out cold.

with no expertise in neurology or head trauma. In 1994, he told *Sports Illustrated* that "concussions are part of the profession, an occupational risk." Pellman further claimed that veteran players could be cleared to play after a concussion more quickly than rookies. "They can unscramble their brains a little faster, maybe because they're not afraid after being dinged." Former players for the Jets would later recall how Pellman often allowed athletes back onto the field after they had received concussions.[42]

As extensively documented by ESPN reporters in a 2013 exposé, *League of Denial*, the NFL's mTBI committee would largely minimize the severity of concussions among NFL players. But the committee would also explicitly apply its research and framing of football injuries to youth tackle football. In 2003, when the committee first began to publish studies in peer-reviewed medical journals, NFL Commissioner Paul Tagliabue expressed confidence that NFL-supported research on concussions would "advance the cause of improving the safety of professional and amateur athletes on all levels."[43]

The NFL proceeded to publish a series of articles in *Neurosurgery* claiming that NFL players did not show evidence of brain damage after multiple concussions. These articles further claimed that the NFL's team doctors were perhaps overly conservative in their decisions about when to allow players back on the field. Although the NFL committee had done no research on high school and college football players, they extrapolated their findings to these age groups. "It

[42] There is no evidence that professional football experience enables players to acquire the non-existent skill of "unscrambling" their own brains. Paul Tagliabue, "Tackling Concussions in Sports," *Neurosurgery* 53;4 (October 2003): 796; Mark Fainaru-Wada and Steve Wainaru, *League of Denial: The N.F.L., Concussions, and the Battle for Truth* (New York: Random House, 2013); Steve Almond, *Against Football: One Fan's Reluctant Manifesto* (Brooklyn, NY: Melvin House Publishing, 2014), 44; Michael Farber, "The Worst Case," *Sports Illustrated*; December 19, 1994. In the same *Sports Illustrated* article, Dr. Joseph Maroon, a neurosurgeon who consulted with the Pittsburgh Steelers, likened a concussion to lights going out, and stated that sometimes concussions were akin to a light bulb dimming for an instant. "Does a very mild concussion need to be reported? Probably not."

[43] Paul Tagliabue, "Tackling Concussions in Sports," *Neurosurgery* 53;4 (October 2003): 796.

might be safe for college/high school football players to be cleared to return to play on the same day as their injury. The authors suggest that, rather than blindly adhering to arbitrary, rigid guidelines, physicians keep an open mind to the possibility that the present analysis of professional football players may have relevance to college and high school players." Several peer reviewers, including Dr. Cantu, were so frustrated by the unsupported claims in these papers, and *Neurosurgery*'s apparent willingness to continue publishing these articles despite their fundamental flaws, that they eventually stopped reviewing the NFL committee's articles.[44]

While the NFL minimized the potential risks of football-related concussions in respected scholarly journals, youth athletes continued to shake off symptoms of head trauma in order to continue competing. As a 16 year-old high school student would explain,

> I've never had a concussion. I probably get my "bell rung" or get "dinged" once every game or every other game. I've never told a trainer because it doesn't really cause problems, it's just a short little bang. It's pounded in your head that you can play through anything. I just suck it up most of the time. You just have to suck it up if you want to play.[45]

Even news stories that expressed concern about the potential dangers ultimately indicated that youth players were very rarely removed from play following head trauma. For example, a 1998 article told the story of a high school quarterback, Mac Mansavage, who shrugged off dizziness and a headache after a tackle, and continued to play and receive hits. Mansavage was ultimately rushed to the emergency room once his symptoms became obvious: he began slurring his speech and his teammates observed his eyes roll back in his head. Mansavage was diagnosed

[44] Elliot J. Pellman, David C. Viano, Ira R. Casson, et al., "Concussion in Professional Football: Players Returning to the Same Game: Part 7," *Neurosurgery* 56;1 (2005): 79-92; ; Mark Fainaru-Wada and Steve Wainaru, *League of Denial: The N.F.L., Concussions, and the Battle for Truth* (New York: Random House, 2013).

[45] Chris Nowinski, *Head Games: Football's Concussion Crisis From the NFL to Youth Leagues* (East Bridgewater, MA: The Drummond Publishing Group, 2007), 49.

with a concussion. His parents insisted that he promise to report any symptoms in the future, but Mansavage admitted to a reporter that he wondered whether, when back on the field with the adrenaline flowing, he would be willing to take himself out of the game. "I probably would. But I'm not sure."[46]

Mansavage's attitude was certainly not unusual for a high school football player at the end of the twentieth century. The description of his team's response to his concussion illustrates the extent to which the burden of addressing concussions was placed upon children themselves. Only when his symptoms were impossible to ignore might an athlete be removed from the field. But in many cases, the symptoms of a concussion, such as dizziness or headaches, were far less obvious to parents, referees and coaches. And given that many youth football programs did not even have trained observers such as doctors or athletic trainers on the sidelines, the chances of adult supervisors detecting the symptoms of a concussion were even smaller.

Furthermore, many adults modeled not treating concussions seriously. Boys strove to emulate their heroes in the NFL and to display a particular "tough" form of masculinity to their coaches and peers. They were thus unlikely to report symptoms that were still considered minor from locker rooms to the pages of *Neurosurgery.* And after their child was rushed to the emergency room for brain trauma, their parents might not require them to cease playing. The risks were perceived as minor relative to the benefits of participating in youth football.

Yet this pattern—recurrent pockets of media and medical concern about the dangers of youth football that largely remained on the sidelines of a football loving culture—began to be

[46] Julie Deardorff, "Concussions Make Players Think Twice," *Chicago Tribune*; October 7, 1998. Accessed January 31, 2016 at http://articles.chicagotribune.com/1998-10-07/news/9810070149_1_concussions-second-impact-syndrome-athletes.

disrupted in the mid-2000s. Several key factors contributed to making concerns about football-related brain injuries at all levels of the sport a topic of national debate. These included former athletes speaking out about their symptoms and the risks of football; new medical findings including the identification of a degenerative brain disease in former football players; a series of over 100 articles in the *New York Times* on the subject that would be nominated for a Pulitzer Prize; and an emerging framing of football-related brain damage as a public health concern that had been covered up by the NFL, akin to the tobacco industry's response to the health risks of smoking.

Football and Chronic Brain Disease

The NFL had by far the largest budget available to spend on studies of football-related brain trauma. In fact, the league would become the main sponsor of research on the topic.[47] Yet in the early 2000s, several key studies by researchers independent of the NFL, while initially inspiring little change, contributed to ultimately challenging the NFL's narrative that football did not cause long-term harm to athletes' brains. This independent research included epidemiological studies that highlighted the cumulative impact of concussions, as well as neuropathological examinations of brain issue that identified a disturbing new disease associated with repetitive head trauma.

The lead author of a 2003 study on the cumulative effects of concussions among NCAA college football players was motivated to conduct this research in part by the injuries he had seen at the NFL level. Before becoming director of the University of North Carolina's education program for certified athletic trainers, Kevin Guskiewicz had worked for the Pittsburgh Steelers as an assistant trainer. There, he befriended Merril Hoge, the professional football player who

[47] See Mark Fainaru-Wada and Steve Wainaru, *League of Denial: The N.F.L., Concussions, and the Battle for Truth* (New York: Random House, 2013), 346.

had retired from the NFL in 1994 due to concussion-related symptoms. After speaking with Hoge by phone several years later, Guskiewicz would recall being disturbed that Hoge did not seem to sound like himself. Convinced that Hoge's symptoms were due to the head trauma he had sustained playing football, Guskiewicz decided to set up a large-scale study of concussions at the college level to systematically study the issue.[48]

Guskiewicz assembled a team of experts, including Dr. Cantu, to follow nearly 3,000 college football players over the course of three seasons. The athletes were given neuropsychological exams at the beginning of each season to be used as a baseline. Those athletes who sustained concussions were given the exam again after their injury, and they were monitored until their symptoms resolved. Published in 2003, this study found that players with three or more concussions were three times more likely to sustain a new concussion. Furthermore, athletes who sustained multiple concussions experienced slower recovery times. The authors concluded that even just one previous concussion could have a cumulative effect, and that concussions caused physiological changes that left athletes vulnerable to slower recovery of their neurological function following a subsequent concussion.[49]

This study proved influential in the medical literature as providing documentation of the cumulative effects of concussions, and it would be cited by hundreds of additional studies. Yet when it was originally published, the research did not have a dramatic effect on broader debates over the safety of youth football. A brief write-up in the *New York Times*, for instance, noted the research suggested that stricter return-to-play guidelines that kept players off the field, waiting

[48] Linda Carroll and David Rosner, *The Concussion Crisis: Anatomy of a Silent Epidemic* (New York: Simon & Schuster, 2011), 25-26.

[49] Kevin M. Guskiewicz, Michael McCrea, Stephen W. Marshall, et al., "Cumulative Effects Associated With Recurrent Concussions in Collegiate Football Players: The NCAA Concussion Study," *JAMA* 290;19 (2003): 2549-2555. See also Linda Carroll and David Rosner, *The Concussion Crisis: Anatomy of a Silent Epidemic* (New York: Simon & Schuster, 2011), 25-26.

until a week after concussion symptoms disappeared, would help protect athletes. Although it received brief mention in the news with its takeaway message that return-to-play policies should be more conservative, at the time, this epidemiological research did not translate into widespread concern about fundamental risks of the sport for children.[50]

Another scientific finding that would influence debates over the safety of youth football— and that would ultimately form the basis of a major feature film in 2015—also did not originally make a substantial splash outside the confines of the medical literature. This development was the discovery of a long-term degenerative disease among former NFL players. In 2002, Dr. Bennet Omalu, a neuropathologist based in Pittsburgh, identified clear evidence of brain damage on autopsy of Mike Webster, a former NFL star who played for the Pittsburgh Steelers. Several years later Dr. Omalu would discover similar degenerative changes in the brain of another deceased Steelers player, Terry Long. The build-up of proteins and plaques he observed in these players resembled other brain diseases such as Alzheimer's and dementia pugilistica in some ways. Yet the pattern of deterioration appeared to be sufficiently different that Omalu believed he had observed a new, though related, disease resulting from repetitive head trauma.[51]

Dr. Omalu termed this degenerative brain disease "chronic traumatic encephalopathy," or CTE. Dr. Omalu would later explain how he chose this name for the form of brain damage he had discovered in these retired football players:

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[50] John O'Neil, "Sports Medicine: For Concussions, Bench Remedy," *New York Times*; November 25, 2003. Accessed February 3, 2016 at http://www.nytimes.com/2003/11/25/health/vital-signs-sports-medicine-for-concussions-bench-remedy.html. In 2011, Guskiewicz would be awarded a MacArthur Foundation "genius" grant for his work studying sports-related head injuries. "MacArthur Fellows/Meet the Class of 2011," *MacArthur Foundation*; September 20, 2011. Accessed February 5, 2016 at https://www.macfound.org/fellows/7/.

[51] Linda Carroll and David Rosner, *The Concussion Crisis: Anatomy of a Silent Epidemic* (New York: Simon & Schuster, 2011); Mark Fainaru-Wada and Steve Wainaru, *League of Denial: The N.F.L., Concussions, and the Battle for Truth* (New York: Random House, 2013).

> Chronic means long-term, traumatic is associated with trauma, and encephalopathy refers to brain damage, disease or malfunction. The acronym, CTE, seemed easy to grasp and remember. The name sounded intellectually sophisticated. The name was sufficiently generic that if I were proven wrong and this was not a newly discovered brain disease, it still referred to a bad brain associated with trauma.[52]

Dr. Omalu first shared his finding with a mentor, neuropathologist Dr. Ronald Hamilton. Hamilton agreed with Omalu's diagnosis, and further realized that linking such extensive brain damage to football-related head trauma was groundbreaking. "I knew this was a billion-dollar kind of finding when I saw it," Hamilton would later recall. They approached several other experts who agreed. In 2005 and 2006, Dr. Omalu, Dr. Hamilton, and their colleagues published the results of the autopsies on Webster and Long's brains in the journal *Neurosurgery.* In the 2005 paper, they described their finding of brain damage associated with repetitive football head injuries as a "sentinel case that draws attention to a possibly more prevalent yet unrecognized disease because of the rarity of CNS-targeted [brain] autopsies in the cohort of retired NFL players."[53]

The autopsy findings on Webster and Long and the resulting medical case reports received relatively limited attention in the national media at the time they were published. For example, in 2005 the *New York Times* published a brief note on the death of Terry Long noting that he had died of brain inflammation according to the coroner with "chronic traumatic

[52] Bennet Omalu, "Concussions and NFL: How the Name Came About," *CNN*; December 21, 2015. Accessed February 5, 2016 at http://edition.cnn.com/2015/12/21/opinions/omalu-discovery-of-cte-football-concussions/index.html.

[53] Bennet I. Omalu, Steven T. DeKosky, Ryan L. Minster, et al., "Chronic Traumatic Encephalopathy in a National Football League Player," *Neurosurgery* 57;1 (2005):128–134; Bennet I. Omalu, Steven T. DeKosky, Ronald L. Hamilton, et al., "Chronic Traumatic Encephalopathy in a National Football League Player: Part II," *Neurosurgery* 59;5 (2006): 1086-1093.

encephalopathy" as a contributing factor, but the article contained no mention of the possible broader implications of this finding for any other players at any level of football.[54]

But the *Neurosurgery* articles on CTE did attract the attention and emphatic condemnation of the NFL and its doctors. Three doctors on the NFL's mTBI committee, including committee chairman Dr. Elliot Pellman, demanded that Omalu's 2005 *Neurosurgery* be retracted after it was published. They wrote a lengthy and scathing letter in response, refuting the suggestion that the damage to Mike Webster's brain was related to his experience playing football. Without identifying their connection with the NFL, these doctors insisted that Dr. Omalu and his colleagues' claims were "based on a complete misunderstanding of the relevant medical literature." The bulk of their letter was devoted to describing CTE in boxers and suggesting that such damage was not evident in NFL players. Mike Webster had "no known history of brain trauma *inside* professional football," the NFL doctors asserted. They suggested instead that Webster's brain may have been damaged by his alcohol, steroid, or illicit drug use.[55]

The NFL similarly denied that the brain damage evident on Terry Long's autopsy was the result of playing football. The controversy received some coverage in the local Pittsburgh papers, the town where Webster and Long had played for the Steelers, and where Dr. Omalu was based. In 2005, the *Pittsburgh Post-Gazette* quoted the Steelers' team neurologist as saying, "Given Mr. Long's history of drug abuse and suicide attempts or whatever altercations may have contributed to his demise, I think it's just bad science to conclude that football caused his death." The debate

[54] "Pro Football; Brain Trauma Cited," *New York Times*; September 14, 2005. Accessed February 4, 2016 at http://query.nytimes.com/gst/fullpage.html?res=9E00E6DC1131F937A2575AC0A9639C8B63.

[55] Ira R. Casson, Elliot J. Pellman, David C. Viano, "Chronic Traumatic Encephalopathy in a National Football League Player," *Neurosurgery* 58;5 (2006): E1003. See also Mark Fainaru-Wada and Steve Wainaru, *League of Denial: The N.F.L., Concussions, and the Battle for Truth* (New York: Random House, 2013).

was framed as a scientific controversy about the deaths of several individual NFL players, not as an indication of a larger health problem in football.[56]

Despite the NFL's efforts to discredit Dr. Omalu's work, the discovery of CTE would move from the sidelines to center field several years later. The reporting of *New York Times* journalist Alan Schwarz proved instrumental in communicating Omalu's findings to a broader public and in drawing sustained national attention to concussions in football at all levels. Schwarz later explained to the *Columbia Journalism Review* that he latched onto the story through a mutual friend who had put him in touch with Chris Nowinski. Nowinski was a professional wrestler who had sustained several concussions both in his wrestling career as well as during his days playing college football at Harvard. Prompted by his personal experiences, Nowinski was working on a manuscript on concussions and sought the advice of a professional writer. Schwarz, impressed with what he read, introduced Nowinski to several publishers. Most, however, did not consider the topic of sufficient commercial interest to succeed as a book.[57]

Then, "basically out of the blue," Nowinski contacted Schwartz again, this time about the 2006 suicide of former NFL player Andre Waters. Nowinski believed Waters's tragic death at the age of 44 might have something to do with football-related brain damage. He persuaded Waters's family to donate the athlete's brain tissue. Mr. Waters's niece, Kwana Pittman, would explain that the family's decision to donate the tissue of their loved one was connected to their

[56] Robert Dvorchak, "Cause of Death Sparks Debate: Steelers Doctor Says Concluding Football Led to Long's Demise is Bad Science," *Pittsburgh Post-Gazette*; September 16, 2005.

[57] Brent Cunningham, "Head Cases," *Columbia Journalism Review*; January 5, 2010. Accessed January 29, 2016 at http://www.cjr.org/behind_the_news/head_cases.php?page=1; Robert Wood Johnson New Public Health, "Alan Schwartz Q&A: Telling the Story of Sports Concussions," *Robert Wood Johnson Foundation*; October 12, 2002. Accessed February 1, 2016 at http://www.rwjf.org/en/culture-of-health/2012/10/alan_schwarz_q_ate.html.

concern about the health of other football players, particularly children. "The young kids need to understand; the parents need to be taught."[58]

Dr. Omalu agreed to examine Waters's brain, and again, he discovered signs of brain tissue degeneration. Schwartz realized that the sports section of the *New York Times* would be interested in this story. In January 2007, he began his coverage of football-related brain damage for the *Times* with an article announcing that Dr. Omalu had linked Waters's suicide to signs of brain damage he suspected were linked to successive concussions Waters had sustained. He likened the damage to Waters's brain to the characteristics of a brain of an 85-year old man in the early stages of Alzheimer's disease.[59]

Schwarz initially thought his 2007 article on Waters would be a "one-off story," particularly given that he was a career baseball writer who did not typically cover football stories. But shortly thereafter he was contacted by a former NFL player who wanted to go public with the terrible symptoms he was experiencing after his own concussions. The *New York Times* ultimately assigned Schwarz to provide long-term, ongoing coverage of the issue, "with no responsibilities other than to broaden his new beat's focus beyond the N.F.L. to the more than four million amateur athletes who play organized football." Schwarz would proceed to write a series of over 100 articles on sports concussions and received a Pulitzer Prize nomination for this work.[60]

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[58] Alan Schwarz, "Expert Ties Ex-Player's Suicide to Brain Damage," *New York Times*; January 18, 2007. Accessed February 1, 2016 at http://www.nytimes.com/2007/01/18/sports/football/18waters.html; Robert Wood Johnson New Public Health, "Alan Schwarz Q&A: Telling the Story of Sports Concussions," *Robert Wood Johnson Foundation*; October 12, 2002. Accessed February 1, 2016 at http://www.rwjf.org/en/culture-of-health/2012/10/alan_schwarz_q_ate.html.

[59] Alan Schwarz, "Expert Ties Ex-Player's Suicide to Brain Damage," *New York Times*; January 18, 2007. Accessed February 1, 2016 at http://www.nytimes.com/2007/01/18/sports/football/18waters.html.

[60] Ben McGrath, "Does Football Have a Future?" *New Yorker*; January 31, 3011. Accessed February 1, 2016 at http://www.newyorker.com/magazine/2011/01/31/does-football-have-a-future; Robert Wood Johnson New Public

Schwarz highlighted the public health implications of concussions in youth football from the first year he began reporting on the subject. For instance, a 2007 article on the reluctance of high school football players to report symptoms of concussion emphasized that this was a health concern affecting over a million teenagers. Schwarz further noted that children were particularly vulnerable to the harms of head injury because their brain tissue was still developing. In a 2009 article summarizing a study that found that rates of dementia were significantly higher among retired NFL players than among the general population, Schwarz discussed the possible implications for younger athletes. "Could some players who stop playing football in high school or college face the same latent risks as professionals who lasted six more years in the N.F.L.? It is one equation that doctors of all affiliations have yet to solve."[61]

In October 2009 and January 2010, the U.S. House Judiciary Committee held a series of hearings on football head injuries. These hearings were prompted in large part by the results of a University of Michigan study of over 1,000 retired NFL players which found that the former players were much more likely to be diagnosed with dementia and Alzheimer's disease compared to men in the national population. Yet increasing media and public attention had also contributed to placing the topic on the congressional agenda. Representative Anthony Weiner (D-New York) stated his view that the congressional record should show that beyond the work of

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Health, "Alan Schwarz Q&A: Telling the Story of Sports Concussions," *Robert Wood Johnson Foundation*; October 12, 2002. Accessed February 1, 2016 at http://www.rwjf.org/en/culture-of-health/2012/10/alan_schwarz_q_ate.html.

[61] Alan Schwarz, "Silence on Concussions Raises Risk of Injury," *New York* Times; September 15, 2007. Accessed February 1, 2016 at http://www.nytimes.com/2007/09/15/sports/football/15concussions.html. Alan Schwarz, "Players Face Head-Injury Risk Before the N.F.L.," *New York Times*; October 1, 2009. Accessed February 1, 2016 at http://www.nytimes.com/2009/10/02/sports/football/02dementia.html.

any member of congress, the reporting of Alan Schwarz had driven the issue. "We probably wouldn't even be here today if it were not for some of the stories that he has written."[62]

Although much of the congressional testimony came from players, doctors and executives associated with the NFL, one theme that recurred throughout the hearings was that the way the NFL handled head injuries inevitably influenced safety in youth football. As Representative Bob Goodlatte (R-Virginia) observed, panelists at these hearings emphasized that sports head injuries were "a problem at a very young age, in junior high school, high school, on up through college, and long before [the players] get to the NFL."[63] Representative Linda Sánchez (D-California) likened the NFL's continued denial of the link between football and brain damage to the behavior of tobacco companies in obfuscating the connection between smoking and harms to health. Researcher Chris Nowinski and former NFL player Bernie Parrish both echoed the tobacco comparison, with Parrish testifying that

> This mild traumatic brain injury committee is the sequel to the tobacco council which produced its own bogus studies, paid experts to testify that tobacco products do not cause cancer, and it exactly parallels the way that Covington & Burling partnered Paul Tagliabue, who was commissioner of the NFL, set up and created the NFL's Mild Traumatic Injury Committee.[64]

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[62] *Legal Issues Relating to Football Head Injuries (Part I & II): Hearings Before the Committee on the Judiciary House of Representatives*, 111th Congress, first and second sessions (October 28, 2009 and January 4, 2010). Accessed February 2, 2016 at http://judiciary.house.gov/_files/hearings/printers/111th/111-82_53092.PDF; David R. Weir, James S. Jackson, and Amanada Sonnega, *National Football League Player Care Foundation Study of Retired NFL Players (*Ann Arbor: University of Michigan Institute for Social Research, 2009); Tom Goldman, "House Hears Testimony on Football, Head Injuries," NPR; October 28, 2009. Accessed February 2, 2016 at http://www.npr.org/templates/story/story.php?storyId=114253880.

[63] *Legal Issues Relating to Football Head Injuries (Part I & II): Hearings Before the Committee on the Judiciary House of Representatives*, 111th Congress, first and second sessions (October 28, 2009 and January 4, 2010). Accessed February 2, 2016 at http://judiciary.house.gov/_files/hearings/printers/111th/111-82_53092.PDF. See also Alan Schwarz, "N.F.L.'s Influence on Safety at Youth Levels is Cited," *New York Times*; October 29, 2009. Accessed February 2, 2016 at http://www.nytimes.com/2009/10/30/sports/football/30concussion.html.

[64] Testimony of Bernie Parrish, retired NFL player, in *Legal Issues Relating to Football Head Injuries (Part I & II): Hearings Before the Committee on the Judiciary House of Representatives*, 111th Congress, first and second sessions (October 28, 2009 and January 4, 2010). Accessed February 2, 2016 at http://judiciary.house.gov/_files/hearings/printers/111th/111-82_53092.PDF.

The efforts of former players and researchers to draw an analogy between the way the NFL and tobacco companies had manufactured doubt about the effects of their product on human health were significant in framing debates over the safety of youth football. As legal and public health scholar Daniel Goldberg would later observe, the tobacco analogy put forward in the 2009-2010 hearings seemed to markedly influence the NFL's public behavior shortly thereafter. Just one month after the first House judiciary hearing, the NFL announced a stricter set of guidelines to managing concussions among its players. These included requiring any player who exhibited significant concussion-related symptoms such as disorientation or amnesia to be removed from the play for the game. Athletes who exhibited symptoms that were considered milder, such as headaches or dizziness, might still be returned to play at the discretion of the examining physician.[65]

As Schwarz would observe, these policy changes amounted to a silent acknowledgement that it was no longer possible for the NFL to "defend a position that conflicted with nearly all scientific understanding of head trauma." Indeed, by the end of 2009, an NFL spokesman for the first time acknowledged the long-term risks of football-related head injuries in announcing the league's decision to donate money to Boston University's Center for the Study of Traumatic Encephalopathy. "It's quite obvious from the medical research that's been done that concussions can lead to long-term problems."[66]

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[65] Alan Schwartz, "N.F.L. Issues New Guidelines on Concussions," *New York Times*; December 9, 2009. Accessed February 2, 2016 at http://www.nytimes.com/2009/12/03/sports/football/03concussion.html; Daniel S. Goldberg, "Mild Traumatic Brain Injury, The National Football League, and the Manufacture of Doubt: An Ethical, Legal, and Social Analysis," *Journal of Legal Medicine* 34; 2 (2013): 157–191.

[66] Alan Schwarz, "N.F.L. Acknowledges Long-Term Concussion Effects," *New York Times*; December 20, 2009. Accessed February 2, 2016 at http://www.nytimes.com/2009/12/21/sports/football/21concussions.html.

The NFL's shift in policy and public statements signaled the extent to which public awareness and perception of football-related head trauma had increased. This shift was due in large part to the work of an independent researcher motivated by his personal experiences of concussions, the reporting of a career baseball journalist with relatively fewer concerns that challenging the NFL would limit his press access to football games, and the reframing of previously overlooked research as profoundly relevant findings for youth football safety that had been actively minimized or denied by the football league. The growing awareness and acceptance of the NFL's role in shaping concussion science is perhaps best encapsulated by a joke headline that the satirical newspaper *The Onion* ran in time for the 2014 Super Bowl: "Super Bowl Confetti Made Entirely from Shredded Concussion Studies."[67]

Yet the NFL's new polices also indicated the NFL's persistent efforts to distinguish between major brain trauma and supposedly minor, insignificant bumps to the head. As one NFL team doctor explained in his remarks on the policy change that allowed physician discretion for relatively minor symptoms, "On every play there are traumatic experiences to the head. The question is one of degree." If the only the biggest and most severe brain trauma was of meaningful concern, then tinkering with rule changes and helmet design might address the problem, and tackle football could persist without significant change.[68]

Framing a Concussion Crisis

By the beginning of the 2010s, public awareness of concussions in youth football was dramatically increasing, as were demands for reforms to address the issue. Fundamentally

[67] "Super Bowl Confetti Made Entirely from Shredded Concussion Studies," *The Onion*; February 2, 2014. Accessed February 7, 2016 at http://www.theonion.com/graphic/super-bowl-confetti-made-entirely-from-shredded-co-35146.

[68] Alan Schwarz, "N.F.L. Issues New Guidelines on Concussions," *New York Times*; December 9, 2009. Accessed February 2, 2016 at http://www.nytimes.com/2009/12/03/sports/football/03concussion.html.

altering, let alone eliminating, the sport of football was largely not part of the framework advanced by advocates seeking policy changes to improve sports safety. Instead, advocates for reform, led by parents in response to their child's catastrophic football injury, asked policymakers to intervene to mandate improved coaching and medical supervision.

As sociologist Joseph R. Gusfield has observed in his study of drinking-driving, determining which individuals or institutions are given responsibility for addressing a problem is central to understanding how an issue is constructed as a public problem. In the case of the emergence of concussions as a public problem in the early twenty-first century, the individual adult supervisors closest to the sport on the ground—namely, parents, coaches and trainers—were assigned the primarily responsibility of better identifying and managing concussions. In this context, the introduction of new laws at the state level to address the management of concussions in youth sports proved one of the most prominent policy responses. [69]

In 2009, Washington State became the first U.S. state to legally mandate return-to-play guidelines. This law was nicknamed the "Lystedt law" in honor of Zachary Lystedt, whose injury had inspired its passage. In 2006, Lystedt suffered a concussion playing high school football, was returned to play later in the same game, then collapsed and suffered a catastrophic brain injury. After spending a week on life support, Lystedt could not speak for nine months, and required a feeding tube for two years. Years of intensive physical therapy enabled him to regain the ability to walk a few steps with a cane, but the injury left him almost certainly requiring care for the rest of his life. In response to their son's devastating injury, his parents lobbied the state of Washington to pass a law requiring, among other things, that a licensed health care provider

[69] Joseph R. Gusfield, *The Culture of Public Problems: Drinking-Driving and the Symbolic Order* (Chicago: The University of Chicago, 1987).

examine youth athletes who experienced a concussion and clear them before allowing them to return to play.[70]

After the successful passage of this law in Washington, the Lystedt family joined with the Sarah Jane Brain Foundation and the American College of Sports Medicine to form the Zackery Lystedt Brain Project. Formally announced during the 2010 Super Bowl, this project's goal was the passage of similar Lystedt laws across the United States mandating how traumatic brain injuries in youth sports should be managed. With the support of parent advocates and medical professionals, by 2014, all 50 U.S. states and Washington, D.C. had passed similar laws with return-to-play guidelines. The laws often also required parents and coaches to receive educational information on how to detect and respond to brain injuries. Lystedt laws thus primarily addressed the issue of how to manage concussions after they occurred, but not how to prevent them. In part, this was because there was very little science supporting any methods for how to actually prevent concussions in a collision sport. "There's so much work being done on how to diagnose and treat concussion, but we still are relatively not very far along as far as how to prevent concussions," as one doctor observed.[71] But the prioritization of both scientific research and policy strategies also contributed to a framing where individuals bore the responsibility for managing risks. Specifically, Lystedt laws placed the responsibility for

[70] Wash. Rev. Code Ann. § 28A.600.190 (2009); Sheila Mickool, "The Story Behind the Zachary Lystedt Law," *Seattle Magazine*; (Fall/Winter 2012). Accessed February 7, 2016 at http://www.seattlemag.com/article/story-behind-zackery-lystedt-law.

[71] Lyle Micheli, interviewed by Kathleen Bachynski, March 17, 2015, transcript.

detecting and managing brain injuries with individual coaches, parents, trainers and health professionals supervising youth sports.[72]

In addition to state-level laws intended to enhance adult and medical supervision of youth sports, parents and athletic directors sought the most advanced, state-of-the-art protective equipment to continue to allow children to play tackle football as safely as possible. Mike Oliver, the executive director of NOCSAE, told the *New York Times* that sales of football helmets had dramatically changed since 2011. "I see high school athletic directors submitting purchase orders for 500 five-star helmets. Parents are saying, 'I don't want a four-star helmet, I want the best for my kid.'"[73]

Much public attention on sports-related concussions focused on efforts to identify a technological fix to the problem. News teams investigated schools providing young players football helmets with outdated or poor designs. Parents and players filed a class-action lawsuit against Riddell, charging that the helmet manufacturer had put forward misleading claims that their products could reduce the risks of concussions. Magazines highlighted helmet design research that could purportedly "save football." Other companies focused on other head protection technologies, particularly headbands or helmet accessories, such as polyurethane

[72] The Sarah Jane Brain Foundation is a national advocacy organization focused on pediatric brain injury. It was founded in 2007 by a father whose 4 year-old daughter suffered a brain injury after being shaken by a nurse. Hosea H. Harvey, "Reducing Traumatic Brain Injuries in Youth Sports: Youth Sports Traumatic Brain Injury State Laws, January 2009–December 2012," *American Journal of Public Health* 103;7 (July 2013): 1249-1254; Alan Schwarz, "States Taking the Lead Addressing Concussions," *New York Times*; January 30, 2010. Accessed February 7, 2016 at http://www.nytimes.com/2010/01/31/sports/31concussions.html?_r=0; Carol Kreck, "States Address Concerns About Concussions in Youth Sports," *Education Commission of the States*, March 2014. Accessed February 7, 2016 at http://files.eric.ed.gov/fulltext/ED561938.pdf; Kathleen E. Bachynski and Daniel S. Goldberg, "Youth Sports & Public Health: Framing Risks of Mild Traumatic Brain Injury in American Football and Ice Hockey," *The Journal of Law, Medicine & Ethics* 42;3 (2014): 323-333.

[73] Jeff Z. Klein, "Spartan Hockey Helmets Going Under Microscope," *New York Times*; July 22, 2014. Accessed January 22, 2016 at http://www.nytimes.com/2014/07/23/sports/hockey/for-safety-hockey-helmets-going-under-microscope.html.

shells to be added to helmets to add extra cushioning. The technological imperative was also evident in the research and development of a "concussion collar" that would lightly constrict athletes' jugular veins. The collar would thus lightly restrict the blood flow back to the heart, and thus purportedly provide players' brains with additional "cushioning" and restrict the movement of the brain to prevent concussions.[74]

Public anxiety about concussions also created an environment ripe for dubious claims about other products intended to reduce the risks of sports-related head injuries. In December 2015, the University of Maryland issued a press release claiming that a study conducted by faculty at the institution had found that high school football athletes who consumed a particular high protein chocolate milk experienced improved cognitive and motor function, even after experiencing concussions. A critique of this release noted that the study did not appear to be peer reviewed or published, did not adequately quantify the purported benefits of the milk, and did not disclose whether the company producing the chocolate milk under study provided any additional funding or free product. Nonetheless, Clayton Wilcox, the Superintendent of

[74] Tom Foster, "The Helmet That Can Save Football," *Popular Science*; December 18, 2012. Accessed February 9, 2016 at http://www.popsci.com/science/article/2013-08/helmet-wars-and-new-helmet-could-protect-us-all; Dave Savini, "2 Investigators: Schools Using Football Helmets with Low Safety Ratings," *CBS Chicago*; November 3, 2014. Accessed February 9, 2016 at http://chicago.cbslocal.com/2014/11/03/2-investigators-schools-using-football-helmets-with-low-safety-ratings/; Mike Orcutt, "New Collar Promises to Keep Athletes' Brains from 'Sloshing' During Impact," *MIT Technology Review*; February 3, 2016. Accessed February 9, 2016 at https://www.technologyreview.com/s/600691/new-collar-promises-to-keep-athletes-brains-from-sloshing-during-impact/; Gary Mihoces, "More Padding the Issue of Concussions and Better Helmets," *USA Today*; August 23, 2013; Accessed February 9, 2016 at http://www.usatoday.com/story/sports/ncaaf/2013/07/30/concussions-college-football-nfl-guardian-caps/2601063/; Michaelle Bond, "Firms Proliferate to Prevent Concussions but Evidence Lags," *Philadelphia Inquirer*; January 22, 2016. Accessed February 9, 2016 at http://articles.philly.com/2016-01-22/business/69964300_1_concussions-ben-franklin-technology-partners-head-trauma; Thomas Zambito, "Judge's Ruling Puts Football Helmet Lawsuit Back in Play," *NJ.com*; August 4, 2015. Accessed February 9, 2016 at http://www.nj.com/news/index.ssf/2015/08/judge_rules_football_helmet_lawsuit_back_in_play.html; Matthew Futterman, "Re-Thinking the Next-Generation Helmet," *Wall Street Journal*; December 24, 2015. Accessed December 26, 2015 at http://www.wsj.com/articles/rethinking-the-next-generation-helmet-1450998090.

Washington County Public Schools in Maryland, planned to purchase $25,000 worth of the chocolate milk for his district's student athletes.[75]

Meanwhile, continuing research on CTE was suggesting that even relatively young adults were vulnerable to chronic brain damage sustained while playing football. In 2010, researchers at Boston University diagnosed CTE in Owen Thomas, a 21 year-old former football player who died by suicide. Thomas, who had started playing football at age 9 and participated through several years of college, was the youngest and first amateur player to be diagnosed with a clear case of CTE. A pathologist who independently confirmed the diagnosis told the *New York Times*, "This is a call for a broader range of research into this problem that extends beyond the heavy duty N.F.L. level of athletics."[76]

In fact, emerging research evidence was suggesting that beyond the most severe and obvious cases of sports-related brain damage, repeated "sub-concussive" hits—in other words, asymptomatic head trauma that did not meet the diagnostic criteria of a concussion—might cause structural and cumulative damage to players' brains. In 2011, PBS FRONTLINE produced a documentary, *Football High*, examining the shifting debates at the high school level. In addition

[75] University of Maryland Press Release, "Concussion-Related Measures Improved in High School Football Players Who Drank New Chocolate Milk, UMD Study Shows," December 22, 2015. Accessed January 5, 2016 at: http://www.prnewswire.com/news-releases/concussion-related-measures-improved-in-high-school-football-players-who-drank-new-chocolate-milk-umd-study-shows-300196365.html; Andrew Holtz, Yoni Freedhoff, and Kathlyn Stone, "Release Claiming Chocolate Milk Improves Concussion Symptoms in Student Athletes is Out-of-Bounds," *Health News Review*, January 5, 2016. Accessed January 5, 2016 at http://www.healthnewsreview.org/news-release-review/concussion-related-measures-improved-high-school-football-players-drank-new-chocolate-milk-umd-study-shows/; Ike Swetliz, "Can Chocolate Milk Speed Concussion Recovery? Experts Cringe," *Stat*; January 11, 2016. Accessed January 11, 2016 at http://www.statnews.com/2016/01/11/chocolate-milk-concussion/.

[76] Alan Schwarz, "Suicide Reveals Signs of a Disease Seen in N.F.L.," *New York Times*; September 13, 2010. Accessed February 6, 2016 at http://www.nytimes.com/2010/09/14/sports/14football.html. CTE would later be diagnosed in other young football players. See, for example, Nadia Kounang, "Football's Dangers, Illustrated By One Young Man's Brain," *CNN*; January 11, 2016. Accessed January 18, 2016 at http://www.cnn.com/2016/01/11/health/football-brain-damage-cte/.

to examining several serious injuries and even deaths related to football, *Football High* also highlighted research on less visible football injuries. The documentary focused on findings from studies conducted at the Purdue MRI Facility, a magnetic-resonance imaging center that was founded in 2007 at Purdue University.[77]

According to Purdue engineering professor Tom Talavage, the lead investigator of this sports-related brain injury research, the original intent for the project was to evaluate athletes who had experienced concussions. Yet for the first few weeks of their project, none of the 50 players on the high school football team the researchers were following were diagnosed with a concussion. So the researchers instead decided to bring in some players who had not experienced concussions and see if they could detect any changes resulting from the blows they were receiving to their heads.[78]

Eventually some of the athletes under study did experience concussions, so the researchers ultimately conducted computer-based neurocognitive testing and functional magnetic-resonance imagining (fMRI) on both concussed and non-concussed student athletes over the course of the fall 2009 season. These exams included pre-season, in-season, and post-season tests. The researchers also installed sensors in the players' helmets to track the number of "collision events," defined as a motion or action where the helmet accelerometer register a magnitude over 14.4 *g* (*g* forces are a standard measure of acceleration; 14.4 *g* is 14.4 times the force of gravity). Over the course of one season, the research team documented over 15,000

[77] Cynthia Sequin, "Purdue, Community Officials Celebrate Opening of New MRI Center to Focus on Patient Care, Research," *Purdue University* [Press Release]; November 2, 2007. Accessed February 7, 2016 at http://www.purdue.edu/uns/x/2007b/071102OlsenMRI.html

[78] "Interview: Tom Talavage," *PBS FRONTLINE*; April 12, 2011. Accessed February 6, 2016 at http://www.pbs.org/wgbh/pages/frontline/football-high/interviews/tom-talavage.html.

collision events among the 21 players participating in the study, meaning an average of over 700 collisions per player.[79]

Talavage's team was surprised to find that about half the players brought in ostensibly for control purposes—that is, the players who showed no clinical symptoms of concussions—exhibited significantly impaired performance on the in-season computer-based testing and/or fMRI imaging. The researchers also found a strong correlation between the number of collision events detected by the helmet sensors and changes to the players' fMRI brain imaging, as well as changes to the players' performance on the computer-based tests. In fact, Talavage explained that initially the team thought they must have done something wrong to observe such findings. But when they went back and re-evaluated the data, they confirmed that the players whose brains looked different on fMRI were the same players who were showing a difference in the neurocognitive testing. The researchers concluded that this group of high school players experiencing neurological changes after one season of sub-concussive hits represented "a newly-observed category of neurological injury."[80]

Talavage and his colleagues proceeded to publish a series of studies confirming these preliminary findings. In addition to structural changes observed in the brains of high school football players, emerging research in NFL players in the mid-2010s began to link multiple sub-

[79] "Interview: Tom Talavage," *PBS FRONTLINE*; April 12, 2011. Accessed February 6, 2016 at http://www.pbs.org/wgbh/pages/frontline/football-high/interviews/tom-talavage.html; Thomas M. Talavage, Eric A. Nauman, Evan L. Breedlove, et al., "Functionally-Detected Cognitive Impairment in High School Football Players Without Clinically-Diagnosed Concussion," *Journal of Neurotrauma* 31 (2014): 327-338. This article was published online in 2010 ahead of print.

[80] *Ibid.*

concussive hits to other potential health harms, notably hormonal dysfunction.[81] The cumulative effect of sub-concussive injuries on children's future health was and remains unclear, because researchers have not conducted prospective studies following young athletes over long periods of time. But the accumulating evidence that repeated hits that caused no symptoms could cause neurological injury suggested a new and disturbing possibility. If sub-concussive hits caused chronic brain damage, then focusing on concussions alone would not address the more fundamental problem of repetitive brain trauma inherent to the collisions involved in tackle football. As Talavage frankly observed in advance of a 2014 White House Summit on concussions in youth sports, "Just increasing efforts to improve concussion diagnosis or even prevent concussions is a waste of time and taxpayer money. We need to figure out how to reduce the number of hits to these kids' heads."[82]

A team of Virginia Tech researchers studying head impacts in even younger football players was coming to a similar conclusion. Conducting studies where they attached sensors to the helmets of young Pop Warner players to measure impacts, they found that athletes as young as 7 and 8 years old were sustaining "head impacts similar in magnitude to severe impacts seen at the high school and collegiate level." The high severity impacts occurred more frequently in practices than in games among the youngest players. While young players experienced fewer impacts per season overall than high school or college players, because they participated in fewer practices and games than their older counterparts, the potential for high-magnitude impacts at

[81] Daniel F. Kelly, Charlene Chaloner, Diana Evans, et al., "Prevalence of Pituitary Hormone Dysfunction, Metabolic Syndrome, and Impaired Quality of Life in Retired Professional Football Players: A Prospective Study," *Journal of Neurotrauma* 31 (2014): 1161-1171.

[82] "Purdue Expert at White House Sports Summit: Subconcussive Blows Damage Kids' Brains," *Purdue University News*; May 29, 2014. Accessed February 7, 2016 at http://www.purdue.edu/newsroom/releases/2014/Q2/purdue-expert-at-white-house-sports-summit-subconcussive-blows-damage-kids-brains.html.

even the youngest levels of the sport was nonetheless concerning (see Figure 21). The researchers likened the need to restrict heads to children's heads to the practice of a "pitch count" in youth baseball, which limited the number of pitches a child could throw in order to prevent joint injuries. In 2015, one of the leaders of this Virginia Tech research team told *Time Magazine*, "I don't see how a reasonable person would argue that we should count pitches to protect the elbow, but not count hits to protect the brain."[83]

Figure 21. Football Head Impact Exposure Data[84]

Age Level	Median Impact	95 percentile impact	Impacts per season
7-8 years	16 *g*	38 *g*	161
High School	21 *g*	56 *g*	565
College	18 *g*	63 *g*	1,000

But the idea that sub-concussive hits posed a more fundamental, even existential problem for youth collision sports was largely masked by the widespread framing of a concussion crisis. According to this framing, proper diagnosis and management of concussions that caused clinical symptoms would be sufficient to alleviate the medical risks. Improved tackling techniques, better helmet design, and education campaigns for players and parents all similarly fit within this

[83] Tyler J. Young, Ray W. Daniel, Steven Rowson et al., "Head Impact Exposure in Youth Football: Elementary School Ages 7-8 Years and the Effect of Returning Players," *Clinical Journal of Sport Medicine* 24;5 (2014): 416-421; Sean Gregory, "Why We Need Hit Counts in Football," *Time Magazine*; October 12, 2015. Accessed February 12, 2016 at http://time.com/4069037/football-brain-injury-hit-counts-cte/. For research supporting pitch counts in Little League baseball, see, for example, Stephen Lyman, Glenn S. Fleisig, James R. Andrews et al., "Effect of Pitch Type, Pitch Count, and Pitching Mechanics on Risk of Elbow and Shoulder Pain in Youth Baseball Pitchers," *American Journal of Sports Medicine* 30;4 (2002): 463-468.

[84] Tyler J. Young, Ray W. Daniel, Steven Rowson et al., "Head Impact Exposure in Youth Football: Elementary School Ages 7-8 Years and the Effect of Returning Players," *Clinical Journal of Sport Medicine* 24;5 (2014): 416-421.

framework. These strategies encouraged athletes and their adult supervisors to take responsibility for preventing concussions in youth tackle football.[85]

The NFL actively participated in framing concerns about youth football head injuries as an issue to be addressed by better adult supervision, particularly the recognition and management of concussions. In 2010, the commissioner of the NFL sent a letter to 44 state governors urging them to adopt Lystedt laws to regulate the management of concussions in youth sports. The professional league framed its own management of concussions as a model for youth leagues to follow: "Given our experience at the professional level, we believe a similar approach is appropriate when dealing with concussions in all youth sports. That is why the NFL and its clubs urge you to support legislation that would better protect your state's young athletes by mandating a more formal and aggressive approach to treatment of concussions."[86]

The NFL also partnered with the U.S. Centers for Disease Control and Prevention (CDC) to create a public-service announcement about concussions in youth sports. Introduced at the end of 2009, this spot aired on national media in the following months during the 2010 NFL playoffs and Super Bowl. The 30-second voiceover emphasized the responsibility of young athletes themselves, as well as their parents and coaches, in reporting and managing concussions:

> Concussions and other head injuries must be taken seriously. If you're a player, protect yourself and your teammates. If you think you're hurt, don't hide it. Report it, and take time to recover. If you're a coach or parent, know concussion symptoms and warning

[85] Kathleen E. Bachynski and Daniel S. Goldberg, "Youth Sports & Public Health: Framing Risks of Mild Traumatic Brain Injury in American Football and Ice Hockey," *The Journal of Law, Medicine & Ethics* 42;3 (2014): 323-333.

[86] Jason La Canfora, "NFL Urges States to Adopt Legislation to Protect Young Athletes," *NFL.com*; May 23, 2010. Accessed February 8, 2016 at http://www.nfl.com/news/story/09000d5d81847223/printable/nfl-urges-states-to-adopt-legislation-to-protect-youth-athletes.

signs, and never let athletes return to action before a health professional says it's OK. Help take head injuries out of play.[87]

The league also provided funding to the CDC's *Heads Up* public information campaign on the risks of concussions, including videos, posters, online trainings and fact sheets. In 2014, CDC researchers published a ten year review of this campaign. They reported that their online training courses focused on the risks of concussions among young athletes were among their most popular materials, and that these courses had been developed through a grant from the NFL. The review did not evaluate whether the *Heads Up* program in fact reduced the incidence of concussions, but instead detailed the amount of material that had been disseminated, and assessed the impact of the material on recipients attitudes' toward the severity of concussions. For example, they noted that among youth sports coaches who had been exposed to educational *Heads Up* print materials, 77 percent self-reported being better at identifying athletes who may have sustained a concussion, and nearly two-thirds viewed concussions as being a more serious injury.[88]

In addition, the NFL partnered with USA Football, its youth development arm, to promote "heads up" tackling. This was a purportedly safer tackling technique where players were taught to keep their heads up and to lead with their shoulders while tackling. Introduced in 2012,

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[87] Linda Carroll and David Rosner, *The Concussion Crisis: Anatomy of a Silent Epidemic* (New York: Simon & Schuster, 2011), 255-256; "Prepared Statement of Stanley Herring," in *H.R. 6172, Protecting Student Athletes From Concussions: Hearings Before the Committee on Education and Labor, House of Representatives*, 111th Congress, second session (September 23, 2010). Accessed February 9, 2016 at https://www.gpo.gov/fdsys/pkg/CHRG-111hhrg58256/pdf/CHRG-111hhrg58256.pdf. The public-service announcement the NFL introduced on concussions in 2009 was also shared on YouTube. "CDC NFL Head Injuries PSA," *YouTube*; December 29, 2009. Accessed February 9, 2016 at https://www.youtube.com/watch?v=NhgIfWl40m4.

[88] Kelly Sarmiento, Rosanne Hoffman, Zoe Dmitrovsky et al., "A 10-year Review of the Centers for Disease Control and Prevention's *Heads Up* Initiatives: Bringing Concussion Awareness to the Forefront," *Journal of Safety Research* 50 (2014):143–147; Testimony of Vikas Kapil, "Protecting School-Age Athletes from Sports-Related Concussion Injury," *U.S. Centers for Disease Control and Prevention*, September 8, 2010. Accessed February 2, 2016 at http://www.cdc.gov/washington/testimony/2010/t20100908.htm.

the Heads Up football program was funded entirely by the NFL. In a 2013 open letter to NFL fans, Commissioner Goodell promoted the Heads Up program, writing that 2,800 youth leagues including 90,000 coaches and over 600,000 youth players had registered for the program in its first year. Several former NFL players publicly expressed their skepticism of this effectiveness of this program; one former professional told ESPN in 2014 that Heads Up was intended to "create the illusion that the game is safe or can be made safe." Nonetheless, the NFL's senior vice president for health and safety insisted that "Heads Up Football makes the game safer."[89]

The NFL framed mothers as a primary source of opposition to the sport, consistent with a decades-long history of sports organizations and media framing "worried moms" as needing to be reassured that football was not dangerous (see chapter one). Through its youth development arm, USA Football, the league started conducting hundreds of "Moms Clinics" in 2013. These clinics were intended to alleviate the fears of worried moms by teaching them the principles of football safety. NFL Commissioner Roger Goodell even attended several of these clinics with his wife Jane, highlighting the importance the league attached to them. "The biggest thing is giving people information they can understand," Goodell explained. In 2015, a *New York Times* profile of these clinics quoted a NFL defensive lineman involved in teaching the mothers, "For moms, it's less X's and O's and more safety and directions." In other words, mothers were not expected to understand or need to know the most detailed football strategies and techniques. Instead,

[89] Steve Fainaru and Mark Fainaru-Wada, "Questions About Heads-Up Tackling," *ESPN*; January 13, 2014. Accessed February 9, 2016 at http://espn.go.com/espn/otl/story/_/id/10276129/popular-nfl-backed-heads-tackling-method-questioned-former-players; Kathleen E. Bachynski and Daniel S. Goldberg, "Youth Sports & Public Health: Framing Risks of Mild Traumatic Brain Injury in American Football and Ice Hockey," *The Journal of Law, Medicine & Ethics* 42;3 (2014): 323-333.

mothers simply needed to be provided enough information to be persuaded that their sons could safely play football.[90]

Major football organizations thus framed football head injuries as a problem amenable to improved supervision and information provision. Yet many youth football organizers maintained that football concussion concerns did not even apply to tackle football at the pre-high school level, because the small size of pre-pubescent children meant that they could not hit each other as hard as the professionals. In 2010, the safety officer for the Jersey Shore Pop Warner league, a league with about 12,000 players on 360 teams, stated, "I can probably count on one hand the number (of concussions) I've seen or that have been reported to us over the last several years." In 2014, the safety page of the Pop Warner youth football league website explained that in Pop Warner football, there was "an absence of catastrophic head and neck injuries and disruptive joint injuries found at higher levels."[91]

Supporters of youth football emphasized these claims in arguments to prospective youth football parents and the general public. In a 2015 op-ed in the *Star Tribune*, the largest newspaper in Minneapolis, an educator and former football player wrote that "Young kids simply do not have the combination of size and speed necessary to cause serious brain injury." He cited research from an NFL-funded study published in the *Journal of Pediatrics* stating that "youth football is a generally

[90] Mike Reiss, "Goodell Joins Pats for 'Moms Safety Clinic,'" *ESPN*; May 29, 2014. Accessed February 9, 2016 at http://espn.go.com/blog/boston/new-england-patriots/post/_/id/4763492/goodell-joins-pats-for-moms-safety-clinic; Ken Belson, "To Allay Fears, N.F.L. Huddles with Mothers," *New York Times*; January 28, 2015. Accessed February 9, 2016 at http://www.nytimes.com/2015/01/29/sports/football/nfl-tries-to-reassure-mothers-as-polls-and-studies-rattle-them.html.

[91] Jaime Aron, "Concussions: Youth Football Begins Prevention Work," *Washington Post*; September 30, 2010. Accessed February 8, 2016 at http://www.washingtonpost.com/wp-dyn/content/article/2010/09/30/AR2010093000815.html; Pop Warner Little Scholars, Inc., "Football Safety." Accessed April 24, 2014 at http://www.popwarner.com/football/footballsafety.htm.

safe activity with regard to concussions for children aged 8-12 years."[92] In fact, the belief that football was relatively safer than driving (see chapter two) persisted to a remarkable extent in these arguments. "I guess since football (was) so ingrained in me growing up, I think football is still safer than your teenage boy driving a car," explained one high school football coach in 2015.[93]

Other writers and even physicians also pushed back against emerging concussion concerns of the 2010s as being overblown or even a form of hysteria. In 2013, Daniel J. Flynn, a conservative author and columnist for the *American Spectator,* penned a book characterizing growing concerns about concussions in football as a "cultural tic masquerading as a public health crusade." Flynn further argued that limiting children's participation in tackle football would effectively amount to a de facto ban on the sport, because the overwhelming majority of tackle football players were children. "To say you don't want kids to play football is to say you don't want football played."[94]

In 2015, Dr. Steven Rothman, a pediatric neurologist, penned an op-ed in the *New York Times* entitled "Parents, Stop Obsessing over Youth Concussions." Rothman cited a 2014 ESPN sports poll finding that nearly 90 percent of parents were worried about the risk of injury in youth sports, with concussions representing the injury of greatest concern. Rothman argued that

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[92] Gary Lussier, Jr., "Parents Are Overreacting to Football Risks," *Star Tribune*; August 24, 2015. Accessed February 3, 2016 at http://www.startribune.com/parents-are-overreacting-to-football-risks/322746741/; Anthony P. Kontos, R. J. Elbin, Vanessa C. Fazio-Sumrock, "Incidence of Sports-Related Concussions Among Youth Football Players Aged 8-12 Years," The Journal of Pediatrics 163;3 (2013): 717-720.

[93] Matt Riedel and Joanna Chadwick, "Luke Schemm's Death Puts Spotlight on High School Football Safety," *The Wichita Eagle*; November 7, 2015. Accessed December 19, 2015 at http://www.kansas.com/sports/high-school/article43613757.html.

[94] Daniel J. Flynn, *The War on Football: Saving America's Game* (Washington, DC: Regnery Publishing, 2013), 2, 14.

this was concerning given the importance of physical activity and the high rates of obesity in the United States. Data about brain damage among adults in professional football could not be applied to children, and furthermore, Rothman argued, the "crisis" could be attributed in part to the loosening of the definition of a concussion in recent decades. He cited a 1977 medical text as requiring temporary loss of consciousness as part of the definition of a concussion, whereas by the 2010s, medical definitions of mild head trauma could include a range of symptoms without loss of consciousness. Ultimately, Dr. Rothman concluded that "too many teenagers who face little chance of long-term brain injury are being kept from playing in healthy organized sports out of an excessive sense of caution."[95]

Adding to the debate, in 2015 Sony Pictures released a major film on Christmas Day, *Concussion*, which starred Will Smith as Dr. Bennet Omalu. The film told the story of Dr. Omalu's research on chronic traumatic encephalopathy and depicted the NFL's efforts to discredit his work. The movie also included a scene where an NFL doctor warned Dr. Omalu, "If 10 percent of mothers in this country begin to see football as a dangerous sport, that is the end of football." According to media accounts and their own testimony, the movie deeply affected many former NFL players who watched it. Domonique Foxworth, a NFL veteran and former president of the NFL Players' Association, stated, "I can no longer confidently say that I would trade my quality of life for the opportunity to improve the trajectory of my family's future."[96]

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[95] Steven M. Rothman, "Parents, Stop Obsessing over Youth Concussions," *New York Times*; December 22, 2015. Accessed February 9, 2016 at http://www.nytimes.com/2015/12/22/opinion/parents-stop-obsessing-over-concussions.html; Tom Farrey, "ESPN Poll: Most Parents Have Concerns About State of Youth Sports," *ESPN*; October 13, 2014. Accessed February 9, 2016 at http://espn.go.com/espnw/w-in-action/article/11675649/parents-concern-grows-kids-participation-sports.

[96] Domonique Foxworth, "7-Year NFL Veteran Dominique Foxworth Saw 'Concussion' and It Made Him Question Everything," *USA Today Sports*, January 5, 2016. Accessed January 5, 2016 at http://ftw.usatoday.com/2016/01/domonique-foxworth-concussion.

Pierre Woods, who played in the NFL principally with the New England Patriots, told the *Detroit Free Press* that if he had seen this movie in his freshman year of high school, "I would have never played football."[97]

In addition, the film in conjunction with broader concussion concerns appeared to have an impact on younger players and their parents. For example, one 18 year-old high school football star in Pennsylvania had received several "full ride" college football scholarships to Division I schools. He decided to turn them all down after seeing *Concussion*, because he decided the free college education was not ultimately worth the health risks. He stated that seeing the deterioration of beloved Steelers player Mike Webster on the big screen hit him especially hard. He explained, **"**Yeah, it would be free college. But your whole life is in jeopardy. You're putting your body in harm's way every single week. It was definitely a tough choice, but I think I made the right choice." Similarly, in 2016, a 17 year-old high school junior explained his decision to quit playing football despite coming from a "football family" that loved the game: "Football was such a big part of my life. But if I can find the satisfaction I got from football without taking the same risks, I'm going to do that instead."[98]

The release of the movie *Concussion* contributed to—and signaled—the broad awareness of concussions as a major health concern in American sports. Recalling anti-drug campaigns of the 1980s, the *New York Daily News* would even run a cover photo of a damaged brain with the

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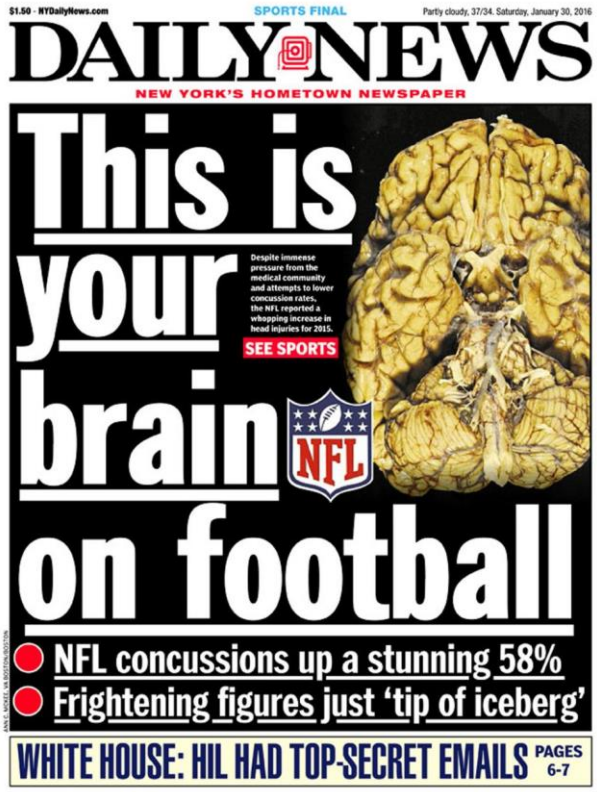
[97] Mark Synder, "Movie Makes Ex-Wolverine Consider Cost of Football," *Detroit Free Press;* December 20, 2015. Accessed January 8, 2016 at http://www.freep.com/story/sports/college/university-michigan/wolverines/2015/12/20/concussion-movie-michigan-wolverines-pierre-woods/77657692/.

[98] Mike White, "With Concussions on the Brain, Mars Standout Castello Shuns Football for Basketball," *Pittsburgh Post—Gazette*; February 2, 2016. Accessed February 6, 2016 at http://www.post-gazette.com/sports/highschool/2016/02/02/With-concussions-on-the-brain-Mars-standout-Castello-shuns-football-for-basketball/stories/201602020018; Julia Jacobo, "'Concussion' Film Inspires High School Football Star to Reject Scholarship," *ABC News*; February 3, 2016. Accessed February 6, 2016 at http://abcnews.go.com/US/high-school-football-star-rejects-full-scholarships-amid/story?id=36692778; Garrison Pennington, "Quitting the Gridiron When Football Runs Through the Family," *NPR*; February 4, 2016. Accessed February 9, 2016 at http://www.npr.org/2016/02/04/465421757/quitting-the-gridiron-when-football-runs-through-the-family.

headline "This is your brain on football" (see Figure 22). But despite the increasing acceptance of the risks the sport posed to human brains, pronounced debates over the magnitude of these risks at the youth level and how to manage those risks persisted.

Figure 22. "This is Your Brain on Football," *New York Daily News* Cover, 2016[99]



Youth Football Safety Debates at a Crossroads

As of 2016, debates over the safety of youth tackle football have become focused almost exclusively on head injuries, with relatively little discussion of bone and joint injuries, heat-related injuries, or other potential risks of the sport. And contemporary debates over head injuries in youth football are at a crossroads, with competing framings of the risks of traumatic brain injuries resulting in significantly different potential responses to addressing the sport's risks.

[99] Cover, *New York Daily News*, January 30, 2016. Nathaniel Vinton, "Concussions are on the Rise in the NFL," *New York Daily News*; January 30, 2016. Accessed January 31, 2016 at http://www.nydailynews.com/sports/football/concussions-rise-nfl-league-data-reveals-article-1.2513828.

The prevailing "concussion crisis," a framework shaped in many ways by the NFL and other sports organizations, suggested that improved adult supervision, return-to-play guidelines, better helmet design and other similar strategies could sufficiently address the risks of youth football. An alternative interpretation of the scientific evidence on sub-concussive hits indicated that the full-body collisions associated with tackling carried inherent risks of brain trauma that could not be substantially reduced.

The tension between these two framings is evident in both medical and public debates over sports-related concussions. Through Lystedt laws and programs such as "Heads Up Football," a range of groups—state governments, youth football organizers, coaches, the CDC, professional health organizations such as the American College of Sports Medicine, and many parents—have all sought to reduce the risks of concussion through education and supervision. On the other hand, advocates who have deemed the risks of tackle football as inherently high have promoted flag football (football without tackling) as an alternative for concerned parents. A handful of schools and communities have even begun to eliminate tackle football, deeming the risks to be unacceptable. For example, in December 2015, the recreation department of the city of Somerville, Massachusetts decided to end city-sponsored tackle football for children.[100] In 2016, writer Gregg Easterbrook argued in the *New York Times* that changing science had made the risks of tackling for children unacceptable. "A generation ago, it wasn't known that sub-

[100] Rachel Bachman, "Flag Football: The Alternative for Concerned Parents," *Wall Street Journal*, November 9, 2015. Accessed December 31, 2015 at http://www.wsj.com/article_email/flag-football-the-alternative-for-concerned-parents-1447093342-lMyQjAxMTE1NDExMDcxMjA3Wj; Joe Lipovich, "Concussion Dangers: City Eliminates Tackle Football For Kids," *Somerville Patch*, December 30, 2015. Accessed December 31, 2015 at http://patch.com/massachusetts/somerville/concussion-dangers-prompt-city-eliminate-youth-contact-football-0.

concussive hits to little children could have lifetime neurological consequences. Now that this is known, youth tackle football must stop."[101]

Comparing the response of sports organizers and physicians to the risks of concussions in other contact sports in the early twenty-first century is telling. In both 2000 and 2014, the American Academy of Pediatrics (AAP)'s Council on Sports Medicine and Fitness recommended against body checking in ice hockey before age 15 to cut down on concussions and other injuries. In 2015, the U.S. Soccer Federation responded to a class-action lawsuit charging the organization with negligence in managing head injuries by implementing new safety policies. The new guidelines, intended to cut down on head trauma, prohibited players age 10 and younger from heading the ball, and reduced the numbers of headers in practice for athletes aged 11 to 13.[102]

But in 2015, the AAP's Council on Sports Medicine and Fitness did not recommend against tackling in youth football at any age. Although the AAP's literature review acknowledged that tackling was significantly associated with increased risk of concussions, severe injuries, catastrophic injuries, and overall injuries, the committee instead recommended enhancing supervision of the sport. The AAP committee shied away from endorsing the elimination of tackling in youth football, because doing so would fundamentally change the way the game is played. The committee instead stated that it was up to the participants themselves to

[101] Gregg Easterbrook, "Take the Tackle Out of Youth Football," *New York Times*; February 9, 2016. Accessed February 9, 2016 at http://www.nytimes.com/2016/02/10/upshot/take-the-tackle-out-of-youth-tackle-football.html.

[102] American Academy of Pediatrics Committee on Sports Medicine and Fitness, "Safety in Youth Ice Hockey: The Effects of Body Checking," *Pediatrics* 105;3 (2000): 657-658; American Academy of Pediatrics Committee on Sports Medicine and Fitness, *"Reducing Injury Risk from Body Checking in Boys' Youth Ice Hockey," Pediatrics* 133;6 (2014*):* 1151-*1157.* Ben Strauss, "U.S. Soccer, Resolving Lawsuit, Will Limit Headers for Youth Players," *New York Times*; November 9, 2015. Accessed February 8, 2016 at http://www.nytimes.com/2015/11/10/sports/soccer/us-soccer-resolving-lawsuit-will-limit-headers-for-youth-players.html.

determine whether the risks of the sport outweighed the benefits. Advocates for youth tackle football quickly seized upon the AAP's statement as an endorsement of the sport. In February 2016, the director of a youth tackle football program emphasized that the AAP "sets no limits as to when our children should begin playing football and realizing its rewards."[103]

Why would the preeminent professional group of American pediatricians, whose stated mission was to optimize the health and well-being of children, recommend against body-checking in youth hockey to prevent concussions, but not against tackling in youth football? Understanding the history of debates over the safety of youth football, and the position of youth football in American society, is essential to answering this question.

Tackle football has nagged at American consciences for over a century. The vast amount of protective gear introduced to the sport could be considered one particularly visible indication of efforts to assuage that conscience. But ultimately, the immense popularity of the sport for children has been deeply tied to the very violence that renders the game dangerous. The collision sport was believed to have not only physical health benefits, but also profound social and moral benefits in teaching boys key values of competition, toughness, leadership, discipline, teamwork and even patriotism. The sport also fostered a form of masculinity in which physical risks were to be embraced and overcome. As football became the country's most popular form of sports entertainment, and became even more deeply associated with both high school and college

[103] American Academy of Pediatrics Committee on Sports Medicine and Fitness, "Tackling in Youth Football," *Pediatrics* 136;5 (2015): e1419-e1430; Kathleen E. Bachynski, "Tolerable Risks? Physicians and Youth Tackle Football," *New England Journal of Medicine* 374 (2016): 405-407; Ron White, "Ban Youth Tackle Football in Kern County? Not So Fast," *The Bakersfield Californian*; February 15, 2016. Accessed February 18, 2016 at http://www.bakersfield.com/news/opinion/2016/02/15/ban-youth-tackle-football-in-kern-county-not-so-fast-1.html. White was responding to an op-ed by a former football player arguing that children should not begin tackling until age 13 due to the risks of long-term brain disease. Clay Farr, "Ban Youth Tackle Football and Keep Our Kids CTE-Free," *The Bakersfield Californian*; February 10, 2016. Accessed February 18, 2016 at http://www.bakersfield.com/news/opinion/2016/02/10/ban-youth-tackle-football-and-keep-our-kids-cte-free.html.

educational systems, the sport also became perceived as a path to accessing resources as well as social and educational success.

Football, of course, is far from the only example of a risky activity in the United States where concerns about health have been overwhelmed by the strength of more powerful beliefs and framings of risk. As historian Pamela Pennock observed in the case of tobacco, for decades "the abstract ideology of 'public health' could not muster enough rhetorical power to serve as a rallying cry in Americans' struggle to control a profitable industry that made and sold a substance that many consumers desired."[104] In their examination of lead poisoning in the United States, Gerald Markowitz and David Rosner quoted one lead researcher as saying, "we are allowing industry to profit by using our children as uninformed research subjects of a vast experiment." A similar observation about exposing children to the uncertain harms of repetitive head trauma in tackle football can and has been made. In fact, in 1973, neuroscientist Richard Schneider observed, "The football fields of our nation have been a vast proving ground or laboratory for the study of the tragic neurologic sequelae of head and neck trauma in man."[105]

But the risks of repeated head trauma in a competitive collision sport seemingly remained hidden for so long not only because of the corporate influence of the NFL (immense as that influence was), but also because of profound meanings and enjoyment attached to the sport of football. Many American parents deeply believed that participation in tackle football enhanced their sons' lives, taught them prized and essential values, and made them into men. These beliefs were shaped by industry, but also by powerful cultural and political ideologies associated with

[104] Pamela E. Pennock, *Advertising Sin and Sickness: The Politics of Alcohol and Tobacco Marketing, 1950-1960* (DeKalb: Northern Illinois University Press, 2007).

[105] Gerald Markowitz and David Rosner, *Lead Wars: The Politics of Science and the Fate of America's Children* (Berkeley: University of California/Milbank Fund, 2013), 228; Richard C. Schneider, *Head and Neck Injuries in Football: Mechanisms, Treatment and Prevention* (Baltimore: The Williams & Wilkins Company, 1973), vii.

competition, masculinity, and patriotism. Many athletes themselves also derived great meaning and pleasure from the sport, including the sport's risks. As one author acknowledged in a "reluctant manifesto" against the sport: "You know you might get hurt playing. That's part of *why* you play, to see what you're made of, how you take a hit, to see what happens when your courage meets real hazard."[106]

In addition to the cultural values associated with football, scientific uncertainty and the relative subtlety of symptoms associated with brain trauma contributed to rendering the harms of repetitive brain trauma relatively invisible. Headaches, dizziness, or nausea were far less obvious than broken bones. Repetitive head trauma, particularly sub-concussive hits with no immediate symptoms, represents a form of low-level exposure that may or may not result in symptoms or chronic disease years or even decades into the future. Again, the comparison to lead poisoning is apt: chronic head trauma represents another instance of low-level harm that is relatively difficult for epidemiologic research to evaluate, but that in the twenty-first century cumulatively and disproportionately harms the most vulnerable children in American society. As with lead, these costs may include "silently stolen futures, lower IQs, lost productivity, narrowed life chances and well-being…emotional distress, and physical damage."[107]

But unlike lead poisoning, the physical experience of tackle football could include real and meaningful advantages. Athletes in many dangerous sports, including tackle football, have struggled with how to weigh the benefits they personally experience from the sport with the potential and uncertain risks: "If 'doing what I loved' cost me the use of my legs and my arms, or

[106] Steve Almond, *Against Football: One Fan's Reluctant Manifesto* (Brooklyn, NY: Melvin House Publishing, 2014), 31.

[107] Gerald Markowitz and David Rosner, *Lead Wars: The Politics of Science and the Fate of America's Children* (Berkeley: University of California/Milbank Fund, 2013), 216.

the full use of my brain, would I say it was worth it? Could I measure the sport's rewards and stack them against the risks, and if I did, what would that balance sheet look like? What had the sport given me, and how much was I willing to pay in return?"[108]

The ethical questions about how to respond to this uncertainty are very different with children and amateur players as compared to professional athletes. Children are not treated as fully autonomous in our society, and should not be treated as having the full capacity to weigh the risks and benefits of repetitive brain trauma. Weighing the risks and benefits of youth tackle football is an adult responsibility. Tracing the history of debates over the safety of youth football involves examining how a wide range of adults—parents, coaches, sporting goods manufacturers, football leagues, journalists, educators, physicians, engineers, lawyers, and others—have struggled with, and in many cases abdicated, this responsibility. The way these debates are framed can either highlight or obscure a fundamental public health question: are the risks of tackle football acceptable for children to undertake? For over a century, our society's answer for millions of children across the United States has been yes.

[108] Eva Holland, "Why We Play: Doing What We Love, Despite the Risks," *SB Nation*; June 25, 2014. Accessed June 25, 2014 at http://www.sbnation.com/longform/2014/6/25/5838366/why-we-play-doing-what-we-love-despite-the-risks.

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