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Protecting Players While Protecting the Integrity of the Game in Youth Soccer

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Protecting Players while Protecting the Game

Aspen Peifer Human Biological Sciences, University of Montana, Griz soccer 2013-2016



Introduction:

Are the newest US Soccer regulations and protocols to prevent concussions going to protect youth players or simply hurt the game?

- Over 3 million youth soccer players registered to play in the US in 2016

- My objective was to compile the most current concussion research and medical opinions with various coaches opinions to evaluate and improve the newest regulations to create a fun and safe playing environment.

Materials and Methods

- Researched the newest US Soccer protocols and regulations

- Interviewed coaches from the youth level, high school level, collegiate level and professional level to see the impact the newest regulations may make on the game

- Interviewed various high school and collegiate trainers to evaluate how they felt coaches reaction and the new regulations might affect player safety and the game

- Evaluated the most current research and how it supported or didn't support the new regulations

- Wrote an article evaluating the protocols as well as making suggestions for change that was supported by both coaches and research

Coach Results

6 coaches analyzed with over 100 years of coaching experience between them from the youth level to profession level



- Will soccer be safer without heading the ball until a child is 11?
- Do you feel that improper heading technique could lead to more concussions?
- Should there be more parent and coach education required regarding concussion symptoms and long term effects they may cause?
- Should the number and type of headers be regulated during practice while teaching proper technique?
- Do you see more concussions from other factors such as player to player contact or player to surface contact more than from heading a ball properly?

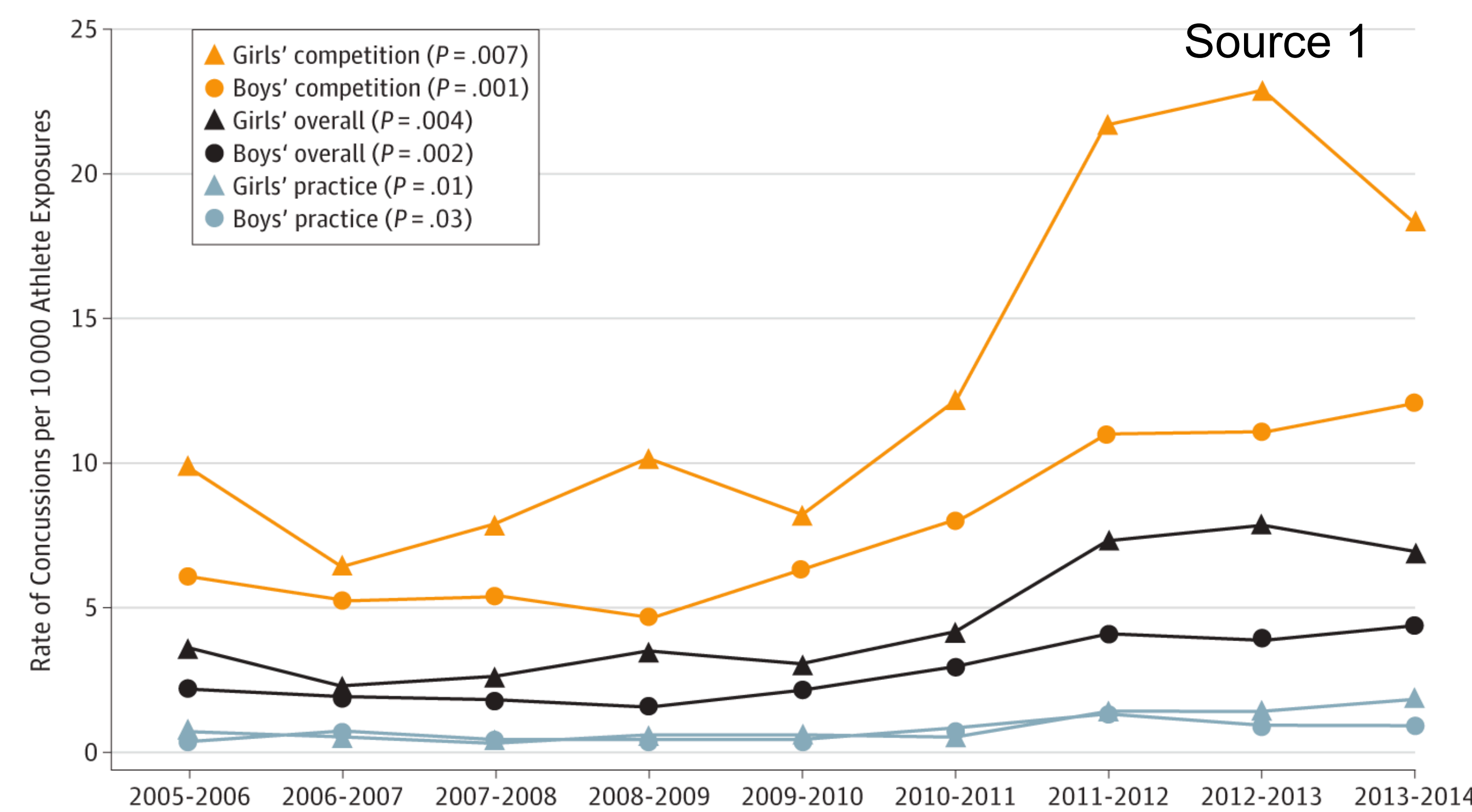


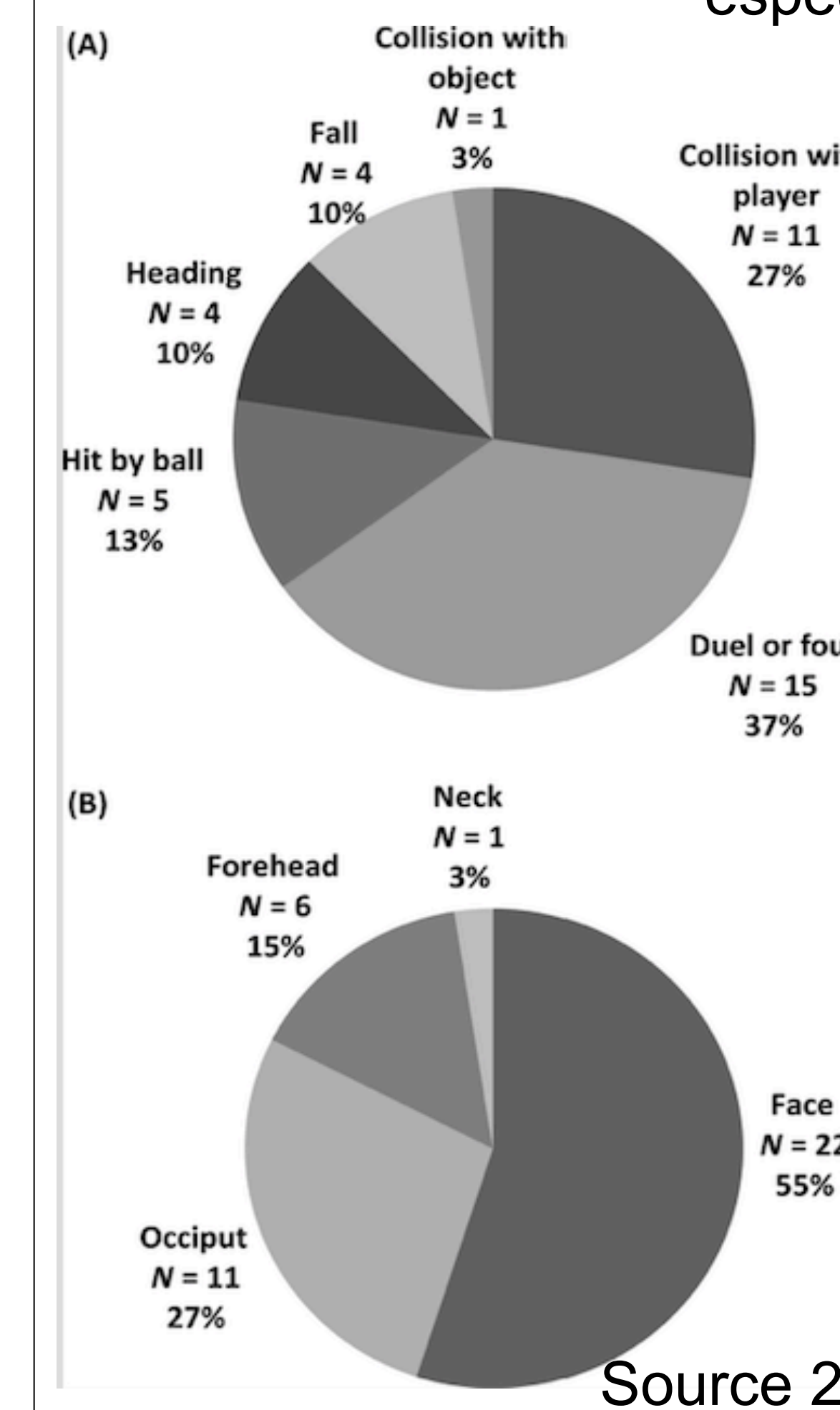
Table 1. Overall Concussions and Heading-Related Concussions in Boys' and Girls' Soccer by Injury Mechanism, National High School Sports-Related Injury Surveillance Study, Original Sample, 2005-2006 Through 2013-2014 Source 1

Variable	Boys' Soccer		Girls' Soccer	
	Frequency ^a	National Estimate, No. (%) ^b	Frequency ^a	National Estimate, No. (%) ^b
Injury Mechanism for All Concussions				
Contact with another player	296	165 791 (68.8)	326	181 855 (51.3)
Contact with playing surface	62	32 153 (13.3)	109	68 087 (19.2)
Contact with playing apparatus, including ball	72	40 999 (17.0)	182	102 766 (29.0)
Total ^c	432	240 998 (100)	623	354 249 (100)
Injury Mechanism for Heading-Related Concussions				
Contact with another player	107	58 235 (78.1)	100	53 764 (61.9)
Contact with playing surface	13	4606 (6.2)	8	5119 (5.9)
Contact with playing apparatus, including ball	16	11 404 (15.3)	49	28 049 (32.3)
Total ^c	137	74 610 (100)	157	86 932 (100)

^a Frequencies do not add up to totals due to censure of a small number of injury reports in which the mechanism was described as "other."
^b Percentages calculated from national estimates do not add up to 100% due to censure of the "other" category and to rounding.
^c Data are missing for 10 boys' and 4 girls' soccer concussions due to missing injury mechanism information.

Research Conclusions

The rate of concussions has increased in the last few years especially in girls



- Heading accounted for 30% of all concussions in one study however we were not told if the headers were performed properly¹

- Heading only contributed 10% in the study with the figure on the left. Stronger neck strength as well as proper heading techniques were seen to decrease head accelerations and impacts of heading on players²

- Head gear and mouth guards can help to diminish head acceleration and prevent concussions/brain damage³

Conclusions and Implications

To maintain integrity of the game and player safety research and coaches agree the game needs:

- Further education of coaches and parents
- Development of neck and jaw muscles to decrease head acceleration starting at a young age
- Coaching proper techniques in a controlled setting
- Have trainers or other certified medical personnel at more club and youth level games

No research has been conclusive in showing that heading a ball properly at a young age leads to a greater risk for concussion or brain damage, however more research in ways to decrease head acceleration should be conducted as well as a study if there are less concussions after the release of the US Soccer concussion protocols.

Sources

- An Evidence-Based Discussion of Heading the Ball and Concussions in High School Soccer. Comstock, Currie, et al. 2015.
- Head injuries in children's football—results from two prospective cohort studies in four European countries, Faude, Rosstell et al. Feb 2017
- A preliminary examination of neurocognitive performance and symptoms following a bout of soccer heading in athletes wearing protective soccer headbands. Narimatsu et al. Dec 2015



Players must be released by a medical doctor after head injury during play

Immediate stoppage of play and mandatory substitution for any head injury during a game

Eliminate heading for children ten and under

Limiting the amount of heading in practices for ages 11 and 13 (10 times/practice)

Return to Play Protocol