A Preliminary Investigation of Sports Specialization and Recent Injury History Among Pediatric Soccer Athletes

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OBJECTIVES
• Sports participation provides a number of benefits to children and adolescents, including improving fitness, academic performance, and higher self-esteem (Difiori, 2014).
• There has been a shift from these benefits to extrinsic rewards of specialization.
• As a result, many medical organizations recommend that youth athletes participate in a variety of sports and avoid specializing in one sport (Valovich McLeod, 2011; Bergeron, 2016; Brenner, 2016; McLeod, 2011; Lehr, 2016).
• There are numerous concerns regarding the psychological impact of sports specialization and possible physical consequences including the risk of overuse musculoskeletal injuries (Jayanthi, 2015; Bell, 2016; McGuine, 2017; Post, 2017).
• Our purpose was to investigate the influence of sports specialization on self-reported recent injury in youth soccer athletes.

CONCLUSIONS
• In this preliminary analysis we found those classified as highly specialized reported more knee and ankle injuries.
• This supports the relevance of lower extremity injury prevention programs in soccer athletes.
• These findings regarding sports specialization support other studies that have identified a positive association between sports specialization and injury risk and suggest possible negative consequences of engaging in only one sport year-round (Jayanthi, 2015; Bell, 2016; McGuine, 2017).

METHODS
Design and Participants
• Cross-sectional, self-reported online survey.
• In order to be eligible, athletes had to be between 12-18 years age and participated in organized soccer in the previous 12 months.
• 435 pediatric soccer athletes.
• 14.96±1.82 years; grade 6.04±1.89 level
• 226 females, 160 males, 9 missing

Procedures
• Parents and athletes from across the United States were recruited to complete an online survey (Qualtrics, Provo, UT).
• The survey link was distributed via email by research group members and through social media (Twitter, Facebook).
• The survey link was shared with youth soccer organizations and high school coaches, who were asked to share the link on their own social media channels.

RESULTS
• Figure 1 displays the percentage of respondents who endorsed recent injury by body area.
• Differences between specialization level and recent injury endorsement are provided in Table 1.
• Significant differences were also noted for ankle injuries (p=0.045) with “High” (29.6%) reporting more ankle injuries than “Low” (16.7%) and “Moderate” (24.1%) not being different from “High” or “Low”.
• No significant differences were noted regarding recent injury for head, back, hip, thigh, low leg, or foot.

Instrumentation and Main Outcome Measures
• The questionnaire included participant demographics, sports participation, soccer participation history, recent (last 12 months) self-reported injury history, and level of specialization.
• Members of the PRISM Sports Specialization Interest Group developed the initial survey questions, using questions from the 3-point specialization scale (Jayanthi, 2015).
• The survey was validated for face validity by the another group of Sports Specialization Interest Group members.

Statistical Analyses
• The dependent variables were participants’ responses to the 8 primary recent injury questions (Yes/No).
• The independent variable was level of specialization (Low/Moderate/High) based on response to a validated 3-point sports specialization scale.
• An independent Kruskal-Wallis H tests (p<.05) and Mann Whitney U tests were used to determine group differences.

Table 1. Percentage of respondents endorsing recent injury by specialization level. *Significantly higher than low.

Table 1. Percentage of respondents endorsing recent injury by body area.

Figure 1. Percentage of respondents endorsing recent injury by body area.