



An Occupational Therapy Perspective of the Motivations and Risks Associated with Adolescent Sport Specialization in Baseball

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Introduction

- Many adolescent athletes are choosing to focus their efforts to improve their skills in baseball instead of participating in multiple sports
- Recent data suggests there are considerable health risks, including arm injuries and burnout, associated with this trend

Arm Injuries

- Current data suggests that most severe baseball-related arm injuries are the result of microtrauma secondary to overuse
- Many youth leagues have established pitching limits to reduce arm injuries, with pitch counts being the most popular method to manage player workload
- Many adolescent players play for multiple leagues simultaneously
- Pitch counts are often ignored and do not account for other throws

Burnout

- Burnout often presents as decreased satisfaction from continued engagement in previously enjoyed activities
- Often follows periods of increased focus and participation in an activity that require extensive preparation and are considered highly important
- May result in sport devaluation, loss of competitive drive, and cessation from sport engagement

Occupational Therapy and Sports

- Sport participation is an important leisure occupation that can improve health and wellbeing
- Occupational therapists are well-suited to analyze sports performance and participation
- Adolescent sport specialization often requires a full-time commitment that may result in the exclusion of other activities
- May result in occupational imbalance and the defining of oneself strictly by athletic engagement

Methods

Qualitative data

- Data collected from parents and caregivers of adolescent (12-18 years) baseball players through a Qualtrics survey
- Survey contained nine multiple choice questions with one open-ended question
- Participants recruited through sharing a link to the survey on Facebook
 - 158 initial participants
 - 145 met the participation criteria
 - 128 initiated the survey, with each question yielding vary participant response
 - 75 participants completed the survey to its entirety

Qualitative data

- Data obtained through semi-structured interviews with Alabama High School varsity baseball coaches on HIPAA compliant Zoom platform
- Coach participants recruited through 2024 Alabama Baseball Coaches Association (ABCA) directory.
 - Participating coaches also recommended other coaches (snowball sampling)
 - 7 coaches participated in interviews

Ontological assumptions

- Critical realism adopted as ontological approach to data analysis
 - Acknowledges lived experiences of the participants
 - Perspectives are shaped by personal experience and are heavily influenced by causal mechanisms they may not fully be aware of

Epistemological assumptions

- Contextualist approach was preferred
 - Appreciates that the ascription of knowledge is shaped from the context of which it arises

Assumptions promote inductive thematic analysis

- Prescribed coding methods would artificially constrain the emergence of themes

Guiding theoretical framework

- Social Cognitive Theory utilized to guide research
 - Constructs describe multifaceted nature of human behavior
 - Well suited for guidance of health promotion research
 - Acknowledges that health behaviors arise from interactions between personal and environmental factors

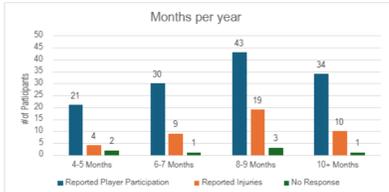
Reflexivity and Positionality Statement

- Former baseball player
- Sustained ulnar collateral ligament injury and experienced burnout in high school
- Was a multi-sport athlete
- Desires to identify factors contributing to the poor health outcomes associated with adolescent sport specialization
 - Seeks to promote player safety and enhance occupational performance

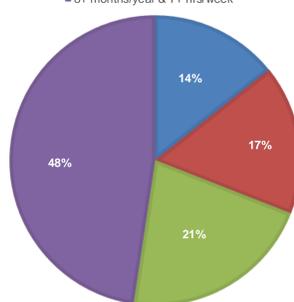
Results

Quantitative

- 34 of 128 participants (27%) identified as single sport participants
 - 13 (17.33%, n=75) participants expressed favorable opinions of sport specialization
- 66% reported multiple league play per year
 - 34% reported concurrent league play
- Higher prevalence of baseball-related injury observed in participants to reported longer baseball participation



REPORTED INJURIES & PARTICIPATION RATES



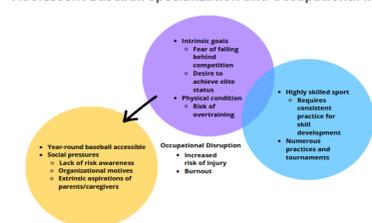
Qualitative

- Theme 1: Environmental Factors
 - Subtheme 1: Parental aspirations
 - Subtheme 2: Increased popularity of year-round travel baseball and player showcase events
 - Participant quote: "Some of these organizations – they couldn't care less about these kid's arms and how they develop the kids. I mean, don't get me wrong. There are good organizations. But, at the same time, there's some organizations that just don't care and it's more pocket money in their pocket and trying to get their organization to the top of the top. The problem is that some of these parents just don't know when to stop. I think where a lot of it has gone wrong is a lot of this has become more of a business for travel teams. And, so it becomes a money grab thing, right? So, the advertise to these kids that "hey, you know, if you want to play college baseball, you got to get in front of coaches. So, we have to play year-round, because the more you play, the more eyes are going to be on you." In reality, a lot of it is high school coaches having relationships with recruiters and they're willing to put their name on the line for kids. It's gotten so exaggerated on recruitment, like there's teams for players who are 12, 13, 14 years old, who are advertising recruitment. That age – which that's never gonna happen."
- Theme 2: Skill Development
 - Subtheme 1: Baseball is a highly skilled sport that requires numerous hours of practice
 - Subtheme 2: Multi-sport athletes possess a diverse range of skills
 - Subtheme 3: Baseball-specific skill development can be obtained through noncompetitive means
 - Participant quote: "There's a physical toughness you can learn in football or in wrestling that I don't know that baseball teaches. I think baseball teaches a mental toughness that no other team sport teaches."
- Theme 3: Health Implication
 - Subtheme 1: Overuse injuries, especially those involving the arm
 - Subtheme 2: Burnout
 - Participant quote: "Kids just don't have the love for the game anymore because they've played it so regularly up until this point to where it's not fun anymore."

Person-Environment-Occupation (PEO) Model

- Occupational performance results from the harmonious overlap of personal, environmental, and occupational factors
- In this case, negative environmental pressures appear to skew the requirements of the occupation (play baseball), resulting in the player overcompensating by overtraining (personal factor)
 - May result in injury, burnout, and occupational cessation

Adolescent Baseball Specialization and Occupational Imbalance



Discussion

Environmental Factors and Burnout

- Parent/caregiver influence
 - May not be aware of the risks associated with adolescent baseball specialization
 - Extrinsic aspirations linked to increased frequency of burnout
- Year-round travel baseball and player showcase events
 - Frequent player mismanagement at tournaments

Skilled Development

- Experts recommend waiting until high school and preferably college
- Offseason rest period for recovery and progressive reintroduction to competition

Injuries

- Injuries increased along with reported duration of baseball participation

Implication for Occupational Therapy Practice

- The restoration of occupational balance may reduce the prevalence of burnout and overuse injuries

Limitations

- Only Alabama High School varsity baseball coaches
- Recall bias
- Did not determine average age of specialization
- Only parents/caregivers of adolescent baseball players (ages 12 to 18 years)

Future Research

- Conduct studies to identify unique factors contributing to sport specialization for children under the age of 12 years
- Expand parameters to include high school and college coaches, as well as professional scouts, from different regions of this United States

Conclusion

- Environmental factors, including social and familial pressure, significantly influence the decision for an adolescent athlete to specialize in baseball
 - May contribute to the prevalence of overuse injuries and burnout
- Addressing these factors and restoring occupational balance may reduce the prevalence of poor health outcomes among adolescent baseball players
- To date, there has been little research on sports related topics from an occupational therapy perspective
- Occupational therapy practitioners are well-suited to address sports related topics

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