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Research Article

Frequency of Negative Adult Spectator Behavior at Adolescent Sporting Events

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Abstract

This study aims to determine the frequency of negative adult spectator behavior at youth sporting games for 11-15 year-olds and compare the frequency of different negative adult behaviors across four sports: baseball, basketball, soccer, and American flag-football. Investigators collected the frequencies of specific negative adult spectator behavior events at 40 sporting events in Central O'ahu, Hawai'i from January 2022 through September 2023. Baseball had the highest mean incidence of total negative adult spectator behavior with a mean of 5.2 incidents per game (95% CIM 2.14 to 8.25). Basketball had 2.6 incidents (95% CI 0.41 to 4.79). American flag-football had 0.9 incidents per game (95% CI 0.47 to 1.33). Soccer had 1.8 incidents per game (95% CI -0.34 to 3.94). Our study found that children are exposed to varying amounts of undesirable adult behavior, indicating a need for establishment and enforcement of policies for adult behavior regulation.

Keywords: *Negative Spectator Behavior, Youth Sports, Adverse Childhood Experiences (ACE), Adolescents, Parent Behavior*

Introduction

Youth sports are a popular extracurricular activity that support the physical, social, and emotional development of children and adolescents. Nearly two million boys and girls participate in Little League baseball worldwide[1] and approximately four million registrants participate in i9 Sports, the largest multi-sport provider in the U.S. for youth sports leagues[2]. These environments allow children to interact with peers and other adults, such as coaches and parents. Studies have shown that youth participation in sports leads to decreased depression and anxiety, improved self-esteem, enhanced school performance, reduced risk for obesity, decreased BMI (body mass index), decreased substance abuse, and overall improved health-related quality of life[3,4].

While the developmental benefits of youth sports are widely recognized, exploring their detrimental aspects may offer opportunities for improvement. Research has shown that in an environment of heightened competition, parent-spectator behavior can be a significant source of negative stimuli, making children uncomfortable and distressed[5]. When parents engage in heated arguments, children can often feel embarrassed and anxious. Additionally, the same study found that children experience increased pressure and anxiety when parents question coaches or interfere with practices[6]. Research has shown that intrusive spectator behavior has potential effects on in-game psychological stress and motor performance in children[7].

Adverse childhood experiences (ACEs), including abuse, neglect, and parental conflict, are known to have significant effects on morbidity in later life[8]. While these events are most often experienced at home, external sources of stress such as violence in a child's community or bullying experienced at school are also considered as ACEs.

Anecdotally, youth sports are a competitive environment where spectators can sometimes display inappropriate behavior such as using profanity, drinking alcohol or smoking, and resorting to physical violence. In the literature, witnessing such behaviors has been associated with increased rates of mental illness, non-psychological medical conditions[9], learning and behavior issues[10,11], and unhealthy lifestyle behaviors such as smoking and drinking in children[12,13]. The impact of ACEs has been well-studied and replicated, furthering the idea that less exposure to ACEs can reduce the cumulative and detrimental impact of ACEs on health[14]. Sporting events could potentially expose children to more ACEs, thus impacting their behavior and development.

Adolescence is a formative period, marked by a complex interweaving of physical, social, cognitive, and moral development[15]. Early adolescence (ages 10 to 13) is characterized by comparing oneself to peers and worrying about perceived physical differences, making this the adolescent stage most sensitive to criticism and negative comments. Middle adolescence (ages 14 to 16) is characterized by being influenced by peer feedback to set goals and rules of conduct, making this stage sensitive to peer pressure and the need to please significant adult figures such as coaches[16]. Thus, early and middle adolescence may be the stages most vulnerable to criticism, negative comments and peer pressure in the sphere of sports. Furthermore, ACEs in adolescence build upon the dose-dependent effect of ACEs from early childhood, suggesting that increased efforts are needed to reduce ACE exposure in this critical period[17].

Previous literature revealed a preponderance of negative adult spectator behavior at youth sporting events for younger children aged 6 to 10 years old but did not find significant differences between sports and age[18]. However, the study did reveal a trend of increasing negative behavior as age increased. The purpose of our study is to build on this research by measuring adolescent exposure to negative spectator behavior at sporting events for 11 to 15-year-olds. This study will compare the frequencies of various negative behaviors across four different sports and investigate other influencing factors, such as age of participants and time of day. Since experiences during adolescence can affect children differently compared to early childhood, it is crucial to assess the extent of negative behavior these adolescents are exposed to and compare the different types of negative adult spectator behavior.

Methods

From January 2022 to September 2023, researchers observed 40 youth sporting events in Central Oʻahu, Hawaiʻi, USA. Participants were between the ages of 11 and 15 years old and included both sexes. Events were identified from an online schedule published on the sporting league's public website. Ten games each of baseball, basketball, soccer, and American flag-football were observed for 45 minutes by two investigators. The occurrence of negative behaviors exhibited by adult spectators, including alcohol consumption, smoking, swearing, and the use of negative language, was recorded. Spectating adults were included if they appeared to be over 18 years old based on reasonable judgment, were positioned near the event, and were actively engaged, as indicated by physical and verbal reactions such as clapping or cheering. Adults who were part of the event staff, such as coaches, umpires, or referees, were excluded from observation. This observational study was determined to be exempt from IRB review.

The occurrence of each negative spectator behavior was recorded using a standardized data sheet. Recorded behaviors included alcohol use (confirmed by visible cans or bottles, with unidentifiable drinks excluded), smoking (cigarettes, joints, vaping devices), swearing, and other negative language (such as threats, violent language, and yelling at event personnel).

Data were summarized, and descriptive statistics, including means and 95% confidence intervals of the mean (95%CIM), were calculated to identify if there were any significant differences between incidences of negative behavior based on type of sport. Additionally, we also compared incidences based on maximum age of participating players and time of day the event occurred.

Results

The characteristics and demographics of the observed events are shown in Table 1. Negative behavior was divided into four different categories, which included drinking alcohol, smoking cigarettes or vaping, swearing, and other negative language. Negative language included, but was not limited to, violent or offensive language, threats, booing, yelling, etc.

Table 1. Sport category, participant demographics, and total negative behaviors observed.

Sport	Number of games (total = 40)
American flag-football	10
Basketball	10
Soccer	10
Baseball	10
Gender	Number of games (total = 40)
Male-only	19
Female-only	2
Mixed	19
Age	Number of games (total = 40)
12 years	10
14 years	17
15 years	13
Negative behavior present	Number of games (total = 40)
Yes	27 (68%)
No	13 (32%)
Time of day	Number of games (total = 40)
Morning	19
Afternoon	21

Baseball had the highest mean incidence of total negative behaviors, with a mean of 5.2 incidents per game (95%CIM 2.14 to 8.25) per game. Soccer had a mean of 1.8 incidents [per game (95%CIM -0.34 to 3.94), basketball had a mean of 1.3 incidents per game (95%CIM 0.03 to 2.56), and American flag-football had a mean of 0.9 incidents per game (95% CIM 0.47 to 1.33), as shown in Figure 1. The error bars on the Figure 1 graph indicate the 95%CIM. There was a significant difference between the total mean incidence of negative behavior displayed at baseball games compared to American flag-football games, since the 95%CIM error bars exclude each other. In examining the individual types of negative adult behaviors, alcohol consumption was significantly more common at baseball games than the other three sports. There were no other significant differences observed between the other sports found using graph analysis.

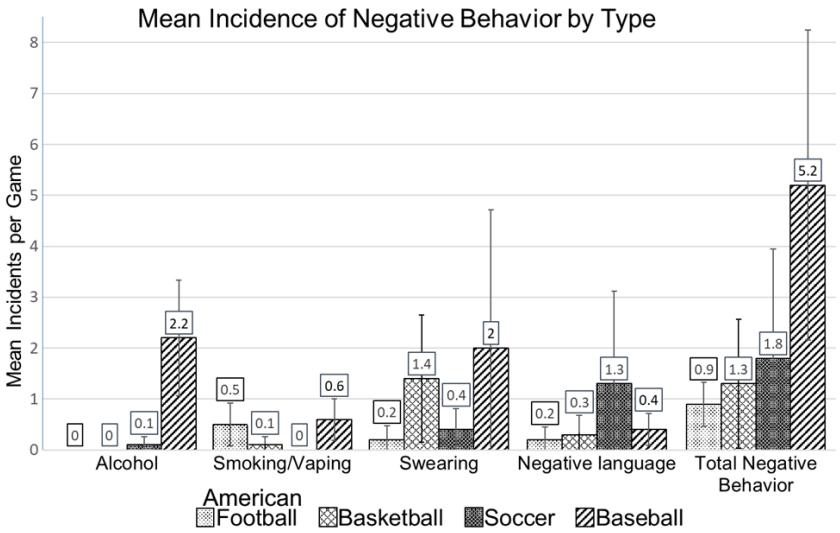

Figure 1. *Comparison of all negative behaviors across all four sports (left to right American flag-football, basketball, soccer, baseball). Error bars indicate 95% CIM.*

Figure 2 graphs the incidences of negative adult behavior by maximum age of youth sports participants (12, 14, and 15 years). The error bars on the graph indicate the 95%CIM. The 15-year-old age group had the highest mean incidence with 5 incidences per game (95%CIM 2.35 to 7.79). The 14-year-old group had the lowest mean incidence of 0.7 per game (95%CIM 0.41 to 1.00). The 12-year-old age group was the second lowest with a mean incidence of 1 per game (95%CIM -0.22 to 2.22). There was a significant difference in mean incidence of negative behavior displayed between the 15-year-old group and the other two age groups since the 95% CIMs exclude each other.

Figure 3 graphs events separated by time of day into two categories: morning and afternoon. Morning was defined as events taking place before 12:00 PM and afternoon was defined as events taking place after 12:00 PM. The error bars on the graph indicate the 95%CIM. The average total negative behavior was 2.62 in the afternoon (95%CIM 0.87 to 3.55) and 2.21 in the morning (95%CIM 0.89 to 4.35). There are no significant differences in negative adult behaviors in the mornings versus the afternoons.

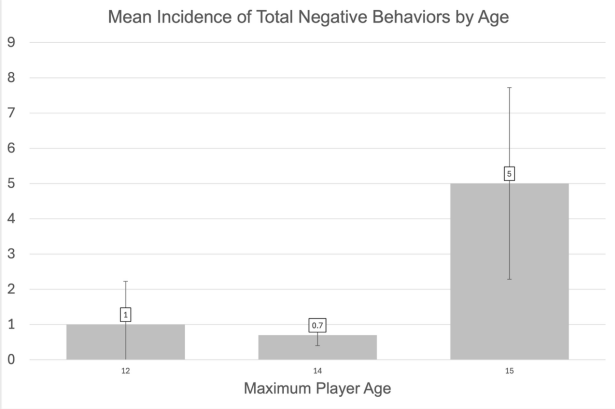

Figure 2. *Comparison of mean incidence of negative behaviors by age group (years). Error bars indicate 95% CIM.*

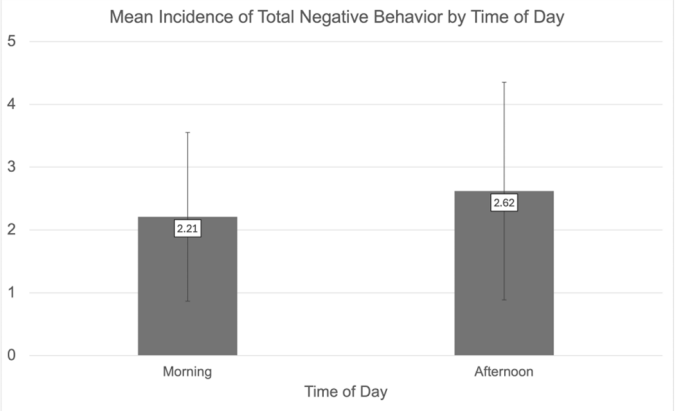

Figure 3. *Comparison of mean incidence of negative behaviors by time of day. Error bars indicate 95%CIM.*

Discussion

The negative behaviors exhibited by observers were significantly influenced by the type of sport they were watching. Baseball displayed the highest number of total negative behaviors and was statistically significant from American flag-football only. There was no significant difference between other sports. Baseball also had the highest number of drinking behaviors and was significantly different from basketball, soccer and American flag-football. We did not find any significant differences between the amount of smoking/vaping, negative language, and swearing behavior displayed at various sporting events.

In addition to our main results, we also analyzed our data based on age of participants and time of day to see if those differences had any effect on the total negative behavior displayed. Although this was not the primary objective of the study, we wanted to look into any other potential trends. A previous study discovered a positive trend between player age incidence of negative behaviors[18]. Our study supports these findings and further substantiates the idea that player age is associated with increased incidence of negative behaviors.

Lastly, we analyzed the data based on the time of day the game was held and no significant differences in behavior between morning and evening games were found. However, this may be due to a type 2 statistical error from insufficient sample size as time of day was not our primary variable.

The higher frequency of negative behaviors, including drinking alcohol, occurring at baseball games suggests that adolescents who participate in baseball are more likely to be exposed to more negative behaviors compared to their peers who play other sports. Therefore, there may be factors about the nature of baseball that influence spectators to exhibit more negative behaviors compared to other youth sporting events studied. This finding also informs the possible need to implement policies during baseball games to mitigate negative spectator behavior and improve youth experience at events.

Minimizing negative spectator behavior at youth sporting events is crucial for reducing young athletes' exposure to ACEs, thereby significantly enhancing their health outcomes. Thus, sporting events should be positive learning environments in which exposure to ACEs, such as swearing, drinking, and smoking should be limited. Although our results highlight a significant difference in negative behaviors at baseball games, negative behaviors were observed at all sporting events which suggests that policies should be established and regulated at all youth sporting events. Current regulations in the state of Hawaii ban drinking alcohol in public parks, but this is evidently ineffective as our study demonstrates. Therefore, we should reassess and implement new policies, or the current regulations should be enforced.

This study is the first to measure negative adult spectator behavior in this age group. It expands upon previous research observing sporting events for a younger age group and confirms that negative spectator behavior often occurs. We also report differences in spectator behavior between sports, one of which was significant.

The observational nature of this study, small sample size and limited geographic region affect its generalizability. However, we decided to observe games in only one community to decrease confounding variables such as socioeconomic status and cultural differences. This permitted a more accurate comparison between the sports, rather than between socioeconomic groups.

Conclusion

In conclusion, negative spectator behavior was detected at most of the sporting events in this adolescent age group. Future directions include extending these observations to older adolescents in high school and investigating other influencing factors, such as gender. Additionally, longitudinal research exploring the impact of negative spectator behavior on childhood development and adult outcomes is warranted, given our understanding of the adverse effects negative experiences can have on developmental outcomes.

Author Contributions

MYY: Conceptualization, Methodology, Investigation, Formal Analysis, Writing–Original Draft and Review & Editing. EAR: Conceptualization, Methodology, Investigation, Writing–Original Draft and Review & Editing. RWC: Methodology, Investigation, Writing–Original Draft and Review & Editing. SLM: Methodology, Investigation, Writing–Original Draft. RPD: Methodology, Investigation, Writing – Original Draft. LGY: Conceptualization, Methodology, Formal Analysis, Writing–Review & Editing, Supervision.

Statements and Declarations

Ethical Considerations

This study was approved by the Institutional Review Board at the University of Hawaii with Protocol ID 2022-00914 on January 6, 2023. The University of Hawaii Human Studies Program approved this study to be exempt from federal regulations pertaining to the protection of human research participants, discharging the need for consent for the collection, analysis, and publication of the obtained and anonymised data for this non-interventional study.

Consent to Participate

Informed consent of participants was waived by the IRB, where it has been deemed that consent would be impracticable to obtain based on the nature of our study.

Consent for Publication

Not applicable.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Data Availability

The data supporting the findings of this study are available upon request.

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