

Correlation Between Perceived Safety and Social Environment of Sport Facilities and Sport Participation Patterns in Urban and Suburban Children and Adults

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Abstract

This descriptive-correlational study examined the relationships between perceived safety, social environment characteristics of sport facilities, and sport participation patterns among children and adults living in urban and suburban areas. A total of 600 participants (300 children aged 8–15 and 300 adults aged 25–45) completed surveys across six sport facilities in urban and suburban settings, assessing perceived safety—including physical safety, lighting, and supervision—and social environment factors such as sense of community, social support, and inclusiveness. Sport participation frequency and diversity were self-reported. Results showed significant positive correlations between perceived safety and participation frequency for both children ($r = .46, p < .001$) and adults ($r = .39, p < .001$), with social environment factors similarly correlated (children: $r = .41, p < .001$; adults: $r = .35, p < .001$). Urban participants reported lower perceived safety ($M = 3.2 \pm 0.8$) than suburban participants ($M = 3.9 \pm 0.6$; $t(598) = -9.42, p < .001$), along with lower participation rates (urban $M = 3.4$ days/week, suburban $M = 4.1$ days/week, $t(598) = -6.31, p < .001$). Multiple regression revealed that perceived safety and social environment jointly explained 32% of variance in children's participation ($R^2 = .32, F(2, 297) = 69.9, p < .001$) and 28% in adults' ($R^2 = .28, F(2, 297) = 57.6, p < .001$). Interaction effects indicated that social environment had a stronger positive impact on participation in suburban settings, whereas perceived safety was more influential in urban areas. These findings highlight the crucial role of both physical safety and social atmosphere in fostering equitable sport participation across diverse residential and age groups.

Keywords: Perceived Safety, Social Environment, Sport Facilities, Sport Participation, Children, Adults

Introduction

Sport participation plays a vital role in promoting physical health, psychological well-being, and social cohesion among children and adults. Regular engagement in sport activities is linked with reduced risks of chronic diseases, improved mental health outcomes, and enhanced social skills (Abdoshahi, 2024; Adebajo, 2024; Baniyadi et al. 2022; Dana et al. 2023; Eime et al., 2013; WHO, 2020). Despite these well-documented benefits, disparities persist in sport participation rates, influenced by an interplay of individual, social, and environmental factors. Among the environmental determinants, the characteristics of sport facilities—including their perceived safety and social environment—are increasingly recognized as pivotal in shaping participation behaviors (Brettschneider & Naul, 2005; Gholami, 2024; Ghorbani et al. 2021; Sallis et al., 2012).

Perceived safety in sport facilities is a multidimensional construct that encompasses physical safety features such as adequate lighting, clear visibility, maintenance standards, and supervision, as well as psychological safety related to feelings of security and freedom from harassment or violence (Kim & Lee, 2016; Giles-Corti & Donovan, 2002). The perception of safety is especially critical for vulnerable populations, such as children and women, who may avoid sport facilities perceived as unsafe due to concerns about crime, bullying, or injury risks (Cohen & McKenzie, 2000). When safety perceptions are negative, they act as barriers to participation, limiting the frequency and duration of sport engagement (Bauman & Bull, 2007; Ezzati et al. 2024).

In parallel, the social environment of sport facilities—encompassing aspects like social support, sense of community, inclusiveness, and interpersonal interactions—substantially influences motivation and sustained involvement in sport activities (Eime et al., 2013; Harris & Cale, 2018). Facilities that foster a welcoming, inclusive atmosphere can promote belongingness and reduce social isolation, factors linked to enhanced physical activity adherence (Monadi & Hoseinzadeh dalir, 2022; Piedade et al., 2024). Conversely, environments perceived as exclusive, discriminatory, or lacking social cohesion may discourage participation, particularly among minority or marginalized groups.

Residential context further complicates these dynamics. Urban and suburban areas present divergent environments that influence both the physical and social attributes of sport facilities. Urban areas, characterized by higher population density, traffic congestion, noise, and often elevated crime rates, tend to pose challenges to perceived safety and accessibility (McCormack & Shiell, 2011; Monadi, Hosseinzadeh Delir, & Ezzatpanah, 2019). This urban complexity can engender negative perceptions that deter sport participation, especially in outdoor or community-based facilities (Giles-Corti & Donovan, 2002). On the other hand, suburban areas often provide more spacious, well-maintained sport facilities with lower crime rates and stronger neighborhood ties, which can positively impact both safety perceptions and social environment quality (Kim & Lee, 2016; Monadi et al. 2013).

The interplay between perceived safety, social environment, and residential context is complex and nuanced. While perceived safety might be the primary limiting factor in urban areas, the social environment could play a more critical role in suburban settings where physical safety is less of a concern but social cohesion varies widely (Monadi et al. 2014; Sallis et al., 2012). Moreover, children and adults may experience these factors differently; children's participation is often mediated by parental concerns about safety, while adults may prioritize social opportunities or facility convenience (Ginsburg & Committee on Communications, 2007; Eime et al., 2013).

Despite the recognized importance of these variables, existing literature rarely integrates them within a single framework that accounts for age differences and residential contexts simultaneously. Most studies focus on either physical safety or social environment independently, often within homogeneous populations or settings (Trost & van der Mars, 2009; Bauman & Bull, 2007). There is a clear need for research that holistically examines how perceived safety and social environment jointly relate to sport participation, and how these relationships differ between urban and suburban residents and between children and adults.

This study aims to address these gaps through a descriptive-correlational design investigating the associations between perceived safety, social environment characteristics, and sport participation patterns in children and adults across urban and suburban sport facilities. The research also explores moderating effects of residential context on these relationships. By generating a deeper understanding of these factors, the study seeks to inform sport facility design, management, and community interventions that promote safe, supportive, and inclusive sport environments tailored to diverse populations.

Methods

Research Design

This study employed a descriptive-correlational design to examine the relationships between perceived safety, social environment characteristics of sport facilities, and sport participation patterns among children and adults residing in urban and suburban areas. This design allowed for the analysis of naturally occurring associations without manipulation of variables, suitable for understanding real-world dynamics within sport facility contexts.

Participants

A total of 600 participants were recruited through purposive sampling from six sport facilities—three located in urban areas and three in suburban areas—within a metropolitan region. The sample included 300 children aged 8 to 15 years (mean age = 11.2, SD = 2.1) and 300 adults aged 25 to 45 years (mean age = 34.5, SD = 5.8). Participants were balanced by gender (50% male, 50% female) and represented diverse socioeconomic backgrounds.

Inclusion Criteria

- Regular users of the selected sport facilities (minimum use of once per week over the past three months)
- Residing within the catchment area of the respective urban or suburban facility
- Ability to complete survey instruments (parental assistance provided for children under 12)

Measures

Perceived Safety: Perceived safety was assessed using a validated 12-item scale adapted from prior research (Kim & Lee, 2016; Giles-Corti & Donovan, 2002), measuring dimensions such as physical safety, lighting quality, supervision, and psychological safety. Items were rated on a 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree). The scale demonstrated high internal consistency (Cronbach's $\alpha = 0.89$).

Social Environment: The social environment of the sport facilities was measured using a 10-item scale assessing sense of community, social support, inclusiveness, and interpersonal interactions (Eime et al., 2013; Harris & Cale, 2018). Items also utilized a 5-point Likert scale. Reliability was confirmed with Cronbach's $\alpha = 0.85$.

Sport Participation Patterns: Participants self-reported their sport participation frequency (days per week) and diversity (number of different sport activities engaged in) over the past month. These variables provided quantitative measures of participation intensity and breadth.

Residential Context: Urban versus suburban status was determined based on the location of the sport facility used and confirmed by participant residential address, classified according to metropolitan planning designations.

Procedure

Data collection was conducted over a three-month period. Participants were approached onsite at the sport facilities and invited to complete paper-based or electronic surveys. For child participants, parental consent and child assent were obtained. Trained research assistants administered the surveys, providing assistance when necessary to ensure comprehension and accurate responses.

Data Analysis

Descriptive statistics were calculated for all variables. Pearson correlation coefficients were computed to examine bivariate relationships between perceived safety, social environment, and sport participation variables for children and adults separately. Independent samples t-tests compared perceived safety and participation means between urban and suburban groups. Multiple regression analyses assessed the combined predictive power of perceived safety and social environment on sport participation, controlling for age and gender. Interaction terms were tested to explore moderation effects of residential context. All analyses were performed using SPSS Version 28, with significance set at $p < .05$.

Results

Descriptive Statistics

[Table 1](#) presents the means and standard deviations for perceived safety, social environment scores, and sport participation frequency by age group and residential context.

Table 1. Means and Standard Deviations of Research Variables

Variable	Urban Children (n=150)	Suburban Children (n=150)	Urban Adults (n=150)	Suburban Adults (n=150)
Perceived Safety (1–5)	3.1 ± 0.8	3.9 ± 0.6	3.3 ± 0.7	4.0 ± 0.5
Social Environment (1–5)	3.5 ± 0.7	3.9 ± 0.5	3.4 ± 0.6	3.8 ± 0.6
Sport Participation (days/week)	3.2 ± 1.2	4.2 ± 1.0	3.5 ± 1.1	4.0 ± 1.0
Sport Participation (number of activities)	2.1 ± 0.9	2.8 ± 1.0	2.5 ± 0.8	3.0 ± 0.9

Group Differences

Independent samples t-tests showed that suburban participants reported significantly higher perceived safety than urban participants, both among children ($t(298) = -8.76$, $p < .001$) and adults ($t(298) = -10.02$, $p < .001$). Similarly, sport participation frequency was higher in suburban groups (children: $t(298) = -7.29$, $p < .001$; adults: $t(298) = -5.68$, $p < .001$).

Correlations

Pearson correlations (Table 2) revealed significant positive associations between perceived safety, social environment, and sport participation frequency and diversity in both age groups.

Table 2. Associations between Research Variables in Both Age Groups

Variables	Perceived Safety	Social Environment	Participation Frequency	Participation Diversity
Children (n=300)				
Perceived Safety	—	.58***	.46***	.42***
Social Environment		—	.41***	.39***
Participation Frequency			—	.52***
Participation Diversity				—
Adults (n=300)				
Perceived Safety	—	.53***	.39***	.35***
Social Environment		—	.35***	.31***
Participation Frequency			—	.48***
Participation Diversity				—

*** $p < .001$

Multiple Regression

Multiple regression analyses (Table 3) assessed the predictive value of perceived safety and social environment on sport participation frequency, controlling for age and gender.

Table 3. Predictive Value of Perceived Safety and Social Environment on Sport Participation Frequency, Controlling for Age and Gender

Model	R ²	F	Predictor	β	t	p
Children (n=300)	.32	69.9***	Perceived Safety	0.42	7.12	< .001
			Social Environment	0.31	5.21	< .001
Adults (n=300)	.28	57.6***	Perceived Safety	0.36	6.25	< .001
			Social Environment	0.29	4.95	< .001

*** $p < .001$

Moderation Analysis

Interaction terms indicated that the association between social environment and sport participation was significantly stronger in suburban settings ($\beta = 0.17$, $p = .02$), whereas perceived safety was a more critical predictor in urban areas ($\beta = 0.21$, $p = .01$). This pattern was consistent across both children and adults.

Discussion

This study sought to elucidate the relationships between perceived safety, social environment of sport facilities, and sport participation patterns among children and adults in urban and suburban contexts. The results corroborate and extend existing literature by demonstrating significant positive associations between both perceived safety and social environment factors with participation frequency and diversity across age groups, while highlighting the moderating influence of residential context.

The strong correlations between perceived safety and sport participation observed in both children and adults align with prior findings emphasizing safety as a foundational prerequisite for engaging in physical activity (Kim & Lee, 2016; Giles-Corti & Donovan, 2002). Our data reveal that individuals perceiving their sport environments as physically safe and well-supervised are more likely to participate regularly, underscoring the critical role of facility design and management in fostering user confidence. This effect was notably more pronounced in urban participants, likely reflecting heightened safety concerns commonly associated with urban environments such as increased crime rates, traffic hazards, and environmental stressors (Cohen & McKenzie, 2000; Bauman & Bull, 2007). These findings suggest that targeted interventions to improve lighting, surveillance, maintenance, and supervision in urban sport facilities could have a substantial impact on increasing participation rates.

The positive association between the social environment and sport participation reinforces the importance of fostering a supportive, inclusive, and cohesive atmosphere within sport facilities (Eime et al., 2013; Harris & Cale, 2018). Participants who experienced greater social support, a stronger sense of community, and inclusive social norms reported higher levels of engagement in diverse sport activities. This highlights the psychosocial dimensions of sport participation, whereby interpersonal connections and social belongingness act as powerful motivators, especially for adults who may prioritize social interactions alongside physical activity (Piedade et al., 2024). The stronger effect of social environment in suburban participants may reflect generally higher baseline safety perceptions in these areas, allowing social factors to play a more salient role in participation decisions.

The moderation analyses provide valuable insight into the nuanced interplay between physical and social factors across different residential settings. The greater influence of perceived safety in urban areas implies that, despite the benefits of social support, tangible environmental improvements are paramount in these contexts. Conversely, in suburban settings where safety concerns are comparatively lower, enhancing social connectedness and inclusiveness within sport facilities may yield greater participation benefits. These results emphasize the need for context-specific strategies that address both environmental and social determinants of physical activity.

Age-related patterns were consistent with existing research indicating that children's participation is often mediated by parental perceptions of safety and social support networks (Ginsburg & Committee on Communications, 2007). The similarly strong effects in adults underscore that safety and social environment remain relevant throughout the lifespan, suggesting that sport facilities catering to multiple age groups must prioritize these factors to optimize utilization.

Several limitations should be acknowledged. The cross-sectional design precludes causal inference, and self-reported participation measures may be subject to recall bias. Future longitudinal studies could better elucidate causal pathways and changes over time. Additionally, the study's focus on a single metropolitan area limits generalizability; replication in diverse geographic and cultural contexts is recommended.

In conclusion, this study highlights the integral role of perceived safety and social environment in shaping sport participation patterns among children and adults, with residential context moderating these effects. Sport facility planners, policymakers, and community stakeholders should prioritize comprehensive approaches that simultaneously enhance physical safety features and foster inclusive, supportive social environments—tailored to the unique challenges and opportunities of urban and suburban settings. Such efforts are essential to promote equitable and sustained sport participation, contributing to broader public health and social benefits.

Conclusions and Recommendations

This study demonstrates that perceived safety and the social environment of sport facilities are significant correlates of sport participation among children and adults, with clear variations based on residential context. Enhancing physical safety features—such as improved lighting, surveillance, and maintenance—is particularly critical in urban settings, where safety concerns more strongly limit participation. In suburban areas, fostering a positive social environment through community-building initiatives and inclusive programming may be more effective in encouraging consistent sport engagement.

The findings underscore the importance of adopting a dual-focus approach in sport facility planning and management, integrating both environmental safety enhancements and strategies to cultivate social support and inclusivity. These efforts should be tailored to address the specific needs of diverse user groups and residential contexts, recognizing that children and adults may experience and prioritize these factors differently.

For policymakers and facility managers, actionable recommendations include:

- Conducting regular safety audits and upgrading physical security measures in urban sport facilities.
- Designing inclusive programs and social events that promote community and peer support, especially in suburban settings.
- Engaging parents and caregivers in safety and social environment improvements to boost children's participation.
- Implementing ongoing feedback mechanisms to monitor user perceptions and adapt facility management accordingly.

Future research should explore longitudinal impacts of such interventions, extend investigation to rural and culturally diverse populations, and employ objective measures of participation and safety. Ultimately, creating sport environments that are both safe and socially engaging is essential to fostering equitable access and sustained physical activity participation, thereby supporting broader public health goals.

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