

# Inclusive Playgrounds: The Role of Occupational Therapy

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## Introduction

#### Play's Importance

Play holds significant importance in children's development across cultures, especially when experienced outdoors. This outdoor play offers freedom and child-directed experiences, enhancing self-confidence, independence, and imaginative engagement. Advocacy for Play

Various organizations, like the American Academy of Pediatrics (AAP) and the United Nations Convention on the Rights of the Child (UNCRC), stress play as a fundamental right for children. Despite this, legal support for children's play remains inadequate in certain regions, impacting accessibility for children with disabilities.

**Barriers to Play** Challenges related to accessibility and usability persist in community playgrounds, even those complying with ADA standards. These issues affect the experiences of children with disabilities, leading to isolation and limited participation. Occupational Therapy's Role

Occupational therapists (OTs) are committed to ensuring play opportunities for all children. Their expertise in adapting environments and understanding play dynamics positions them as potential leaders in designing inclusive playgrounds. **Capstone Purpose** 

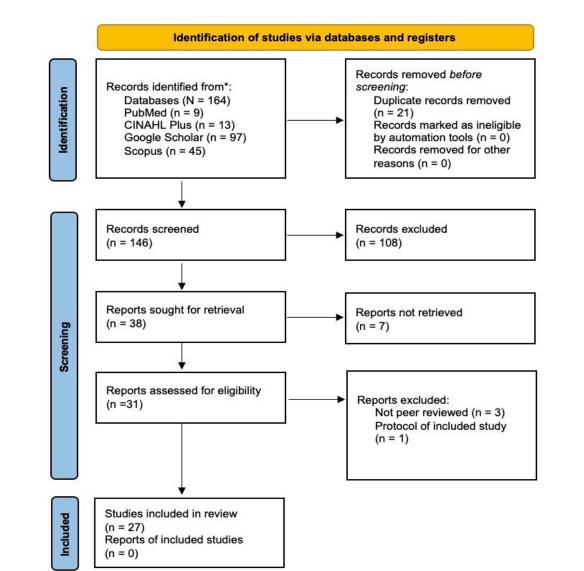
Everyday Sunshine's initiative aims to design an inclusive playground in Decatur, AL, focusing on evidence- and theory-based recommendations. This effort includes a mixed methods survey involving caregivers and OTs to gather insights and recommendations for the future playground, aligning with Everyday Sunshine's vision and highlighting the potential role of OTs in designing inclusive spaces.

### Results

- A total of 164 documents were screened in Covidence, resulting in 38 meeting the inclusion criteria after removing duplicates and conducting title/abstract screenings. Ultimately, 32 articles were included in the review (see Figure 1), including five found through manual searches. Of these, 15 were primary research utilizing qualitative, quantitative, or mixed methods, while 17 were various review types.
- The comprehensive review identified four main themes in evidence-based playground design recommendations: accessibility, diverse play experiences, safety, and community engagement
- The caregiver survey gathered insights on their child's playground visits and barriers hindering inclusion. Responses from 20 caregivers revealed diverse disabilities: autism spectrum disorder (4), ADHD (2), disruptive mood dysregulation disorder (1), and various other conditions. Seven children had cognitive ages younger than 14 despite being older. Playground visit frequency varied: some visited less than three times in a year, while others went multiple times a week. Figure 2 illustrates the correlation between caregiver satisfaction and local playground visit frequency.

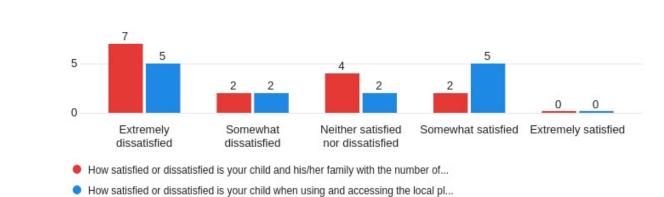
#### Figure 1

The PRISMA diagram of the study selection process (Moher et al. 2009)



#### Figure 2

Satisfaction with local playground visits, accessibility, and Usage



## Methods

A literature review and a mixed-methods web-based survey were conducted to provide Everyday Sunshine with a summarized description of evidence-based playground design recommendations for children with and without disabilities. These methods aimed to answer the following question: Are there evidence-based playground design recommendations to promote inclusion among children with and without disabilities?

#### Research Protocol: Literature Review

- Following PRISMA guidelines, the author used the following databases: CINAHL Plus, Scopus, Google Scholar, and PubMed.
- The criteria required articles to focus on outdoor play spaces like community or school-based playgrounds. They needed to address playground design factors impacting use and be published in peer-reviewed journals. Participants could include children with or without disabilities, caregivers, or professionals specializing in children with disabilities. Articles measuring outcomes other than play, like reducing undesirable behaviors or enhancing physical activity, were excluded.
- The search focused on terms like "children with and without disabilities," "playgrounds," "inclusive design," "recommendations," and "play," combined using MeSH terms, Boolean operators, and wildcards (\*) for broader results
- **Research Protocol: Survey** • The University of Alabama at Birmingham's (UAB) Institutional Review Board (IRB) approved the study's involvement of human subjects. A web-based survey, open for two months, engaged caregivers of children with disabilities and professionals. It included multiple-choice, closed-ended, open-ended, and Likert-scale questions. The survey covered demographics, quantitative data on playground use and satisfaction, and qualitative insights into barriers faced by children with
- disabilities. Questions were designed in collaboration with Everyday Sunshine's founder, Jeff Sharp, to align with their inclusive playground mission • The survey targeting occupational therapists (OTs) used open-ended questions to gather their insights on inclusive design recommendations, occupational therapy's role in removing inclusion barriers, and their perception of their role in promoting inclusive playgrounds. These questions were chosen after a thorough
- The study population for the survey included caregivers of children with disabilities who were cognitively younger than 14 years old. OT professionals who
- specialize in children with disabilities were also included and had to be employed in a child-based setting to participate in the survey. • The survey was sent via email to nonprofits like Everyday Sunshine, The Arc of Morgan County, and the Alabama Disabilities Advocacy Program (ADAP), and shared on Everyday Sunshine's social media. Pediatric therapy clinics were asked to distribute the survey flyer. Participants accessed the survey through a QR code or link, received a study consent letter, and took less than 30 minutes to complete it. No compensation was provided, and participants could withdraw anytime without
- consequences • The survey was developed and orchestrated using Qualtrics (https://www.qualtrics.com), accessed by the UAB. The survey results were organized using a deductive approach to the value codes related to the research questions. These codes include physical and nonphysical barriers, and physical and nonphysical design recommendations. The themes identified after completing a thematic analysis and a summary of the survey responses will be discussed in further detail.

### Discussion

This review revealed key playground design elements crucial for inclusivity: safety, accessibility, community engagement, and diverse play experiences. Caregiver feedback emphasized the need for inclusive playgrounds, correlating their non frequent visits with negative experiences. Caregivers and OTs highlighted design insights to overcome barriers. The discussion used the Person-Environment-Occupation-Performance (PEOP) model to explore the interaction among individuals, the playground environment, and play occupation, shaping participation and performance. Integrating evidence-based design, survey insights, and the PEOP model aimed to comprehensively understand playground design for fostering inclusion.

- Involves psychological, neuro-behavioral, cognitive, and physiological traits (Christiansen, Bass, & Baum, 2015)
- An inclusive playground accommodates diverse individuals and populations... • Both typical and non-typical children possess unique abilities aligned with their development, influencing their play and learning during experiences.
- Playground designs should cater to varying levels of play experience.

#### **PEOP Model: Environment Physical Environment:**

- Playground safety and risk management: Single
- entry/exit points, lighting, shaded zones, routine maintenance (literature).
- Safety measures: Soft flooring, spacious areas, brightly colored surfaces near hazard areas, caregiver
- accessibility to assist if needed (literature and surveyed

Separate play areas for younger children due to safety

- concerns (literature). Accessibility considerations: Convenient location,
- parking, ground surfacing, restrooms, water fountains (literature and surveyed caregivers).
- Adaptations for elevated structures: Ramps with handgrips and a gradual incline, transfer systems,
- shorter steps (literature and surveyed OTs). Equipment accessibility: Spaces for diverse abilities

### (literature and surveyed caregivers/OTs).

- Recommendations: Community engagement, advocacy campaigns, trained playworkers, peer buddy systems (literature and surveyed caregivers).
- Strategies for positive social interactions: Group activities, awareness programs (literature and surveyed caregivers).

#### **PEOP Model: Occupation, Participation, and Performance in Play** Various play types are crucial for inclusive playgrounds:

- **Diverse Play Experiences:**
- constructive, motor, imaginative, and social play (supported by
- Tailoring play experiences to accommodate different abilities and
- ages is vital to ensure inclusivity. **Sensory-Enriching Activities:**
- These activities are foundational for providing diverse play experiences (supported by literature).
- Recommendations include incorporating varying sensory intensity levels and dispersing sensory activities throughout the playground to prevent overstimulation, as noted in both literature and
- insights from surveyed caregivers/OTs. **Opportunities for Self-Challenge:**
- Offering diverse and varied play experiences is essential for inclusivity, catering to different abilities and developmental stages (supported by literature).
- The importance of multiple access methods, such as ramps, climbing walls, and steps, to encourage inclusivity as highlighted in literature and responses from surveyed OTs.
- **Usability of Playground Spaces:**  The usability of playground elements, alongside accessibility, is crucial for inclusive play experiences (supported by literature).
- Recommendations include ensuring predictability in play components, usability enhancements, and limiting overly complicated equipment, in line with the literature findings and insights from surveyed caregivers/OTs.

## Discussion continued

#### Occupational Therapy's Role

- OTs play a pivotal role in inclusive playground design due to their understanding of physical and social environmental impacts on children's play engagement and performance (supported by literature).
- Insights from surveyed OTs indicate their potential contributions across different levels, such as providing education to families, advocating for inclusive design, and engaging with governmental bodies for funding and support. Limitations
- Exclusion of specific databases might have missed relevant articles from other sources.
- Relying solely on peer-reviewed literature might have overlooked valuable insights.
- Future research could explore broader criteria and less empirically supported practices for more inclusive playground
- The limited number of survey respondents affected the reliability of caregiver and OT responses.
- However, qualitative survey data further supported recommendations found in the literature.

## Conclusion

#### **Conclusion**

- Study findings offer evidence-based and theory-based recommendations for inclusive playgrounds.
- Recommendations enhance peer interaction among children with diverse abilities.
- Theoretical approaches shed light on various factors influencing playground environments.
- Insights from the study have broader implications for organizations, architects, and schools aiming to create or improve inclusive playgrounds.
- This study contributes to expanding research for more inclusive playgrounds globally, recognizing the needs of all children.
- Promotes the engagement of occupational therapy in planning inclusive playgrounds and underscores the profession's impactful

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role in supporting these initiatives.

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### Acknowledgement & Contact information

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