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## Children's perceptions of playing on inclusive playgrounds: A qualitative study

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### ABSTRACT

**Background:** Inclusive playgrounds aim to enable all children to participate and be socially included on playgrounds through the way they are designed. However, knowledge is lacking about how children with and without disabilities perceive playing on inclusive playgrounds and whether these playgrounds lead to more social inclusion.

**Aims/Objectives:** The study explores the experiences of children, with and without disabilities, of playing on inclusive playgrounds.

**Material and methods:** Semi-structured interviews and observations were conducted on six inclusive playgrounds in Switzerland. Overall, 32 children aged 7–12 years participated; 14 children had a disability while 18 children did not. A qualitative content analysis was used for data analysis.

**Results:** The children's experiences of playing on an inclusive playground resulted in the creation of three categories describing: how children with and without disabilities experience play activities on inclusive playgrounds; invisible barriers on inclusive playgrounds; and the fact that children with disabilities have recommendations for the design of inclusive playgrounds.

**Conclusions and significance:** The results showed that achieving inclusion on a playground is complex and must be considered as a transaction among different environments. For occupational therapists, this could mean that, to support play as an activity on inclusive playgrounds, intervention is necessary at the community and political levels.

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Inclusive playgrounds;  
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## Introduction



The importance of building inclusive playgrounds for all children has been recognized recently and addressed in different world regions such as the UK [1], Australia [2], the US [3], and Hong Kong [4]. In Switzerland, guidelines for *Playgrounds for all* have been published with the support of the Federal Office of Equality of Persons with Disabilities [5]. Of the 2319 public playgrounds in Switzerland, only around 40 have been built to be inclusive for all children [6,7]. Like other countries, Switzerland established legal bases for eliminating discrimination against people with disabilities, doing so through its Disability Discrimination Act, implemented in 2004. The Disability Discrimination Act states, among other things, that newly built public buildings and parks must be accessible to enable people with disabilities to participate in, and independently maintain social

interactions within, society [8]. In line with the Disability Discrimination Act, the overall objective of the guidelines for *Playgrounds for all* is to provide accessible and usable playgrounds that enable the participation of children with disabilities in society. Hoogsteen and Woodgate [9, p.325] said that

‘in order to participate, a child with disabilities must take part in something or with someone, they must have a sense of inclusion, control over what they are taking part in, and be working toward obtaining a goal or enhanced quality of life.’

*Playgrounds for all* could also be considered inclusive playgrounds.

Inclusive playgrounds are characterized by the fact that they go beyond the physical aspects of accessibility, with the aim of creating opportunities for social interaction and inclusion [10]. Therefore, inclusive playgrounds could be a way to support the

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participation and inclusion of children with disabilities in society. Furthermore, inclusive playgrounds promote the ‘social aspects of play’, such as building friendships, and aim to contribute to a wider acceptance of disability in society [10, p. 80, 11,12].

Play is recognized as a central occupation of children and essentially contributes to the development of social, cognitive, and physical skills, as well as to children’s overall well-being and mental health [13,14]. A central assumption of occupational therapy is the positive impact of occupations on health and well-being [15,16]. If children are not allowed to engage in meaningful occupations, such as play, this can be considered a challenge to the occupational right of developing ‘through participation in occupations for health and social inclusion’ [17, p. 81]. It then becomes a matter of occupational injustice, with the risk of leading to occupational deprivation. According to Stadnyk [18], occupational therapists are in the ideal position to advocate for children’s right to play and to address matters of occupational injustice, as occupational therapists have knowledge about human occupations, such as play, disabilities, and the environment.

As children constitute the main user group of playgrounds, their perceptions should be the focus when one is studying playgrounds. Also, the guidelines for *Playgrounds for all* state that children should participate in planning and decision-making processes in the construction of playgrounds [5]. Previous research has shown that all children, whether or not they have a disability, report that playgrounds are important places in their lives and recognize aspects that influence children’s experiences of play on playgrounds [19]. One aspect is that children with and without disabilities are looking for challenges, variety, spaces for retreat, and nature elements [19–21].

Another important aspect is participation in social interactions by meeting other children, playing together, making friends, and having private conversations without adults listening [19,20]. However, this aspect often remains an unattained desire for children with disabilities [19]. Furthermore, children with disabilities state that they do not often visit playgrounds due to various barriers [19,21].

Barriers are perceived in terms of accessibility, which can lead to children with disabilities being dependent on the help of adults to reach playground equipment [22]. Usability was another barrier identified, as playground equipment was often perceived as not being adapted to the needs of children with disabilities. These results highlight the existence of

barriers on playgrounds and the importance of creating inclusive playgrounds through the addition of children’s views in the evaluation of playgrounds in order to enable all children to exercise their right to play and participate in society in accordance with the United Nations Convention on the Rights of the Child [23].

Previous research has focussed on children’s experiences playing on public playgrounds and has highlighted the importance of the physical environment, which should offer high play values and affordances, as well as make a playground accessible and usable. Furthermore, research has shown that children with disabilities often feel excluded from activities on playgrounds. Inclusive playgrounds might be a way to address these challenges. However, knowledge is lacking about how children with and without disabilities experience the act of playing on inclusive playgrounds and whether these playgrounds lead to more participation. Thus, this study aimed to explore children’s experiences of playing on inclusive playgrounds.

## Methods

### Design

A qualitative descriptive design was selected to explore children’s experiences of playing on inclusive playgrounds. To capture the experiences and social interactions of children with and without disabilities, together with the design of the playground, semi-structured interviews with open-ended questions and observations were used for data collection [24,25]. The combination of more than one data source, e.g. interviews and observations, is recommended to gain a more holistic picture of the investigated situation [26]. Qualitative content analysis was chosen for analysis of the data to identify similarities and differences and see whether patterns are recognisable [27].

A declaration for no objection with the number 2018-00551 was obtained from the ethical commission of the canton Zurich in Switzerland.

### Study context

Six publicly accessible playgrounds, all constructed according to the guidelines for *Playgrounds for all*—and, thus, intended to be inclusive and designed for children with and without disabilities [5]—were selected to be sites of data collection. Four of the playgrounds were located between a special school and a regular school. These four playgrounds were intended for use by children from the special and the

regular schools and were open to the public. One playground was located in a neighbourhood next to a regular school, a regular kindergarten and a day care centre. Another playground was located next to a public beach and a campsite.

### **Participants**

A purposeful sampling strategy [28] was applied to include children with and without disabilities. Inclusion criteria were that children had to be aged between 7 and 12 years. This age range was determined because school-age children can understand questions and provide content-rich answers [29]. The legal representatives of the children were required to provide informed consent. An inability to express oneself verbally, in writing, with gestures, or through technical devices was applied as an exclusion criterion.

Overall, 32 children participated in the study (9 girls, 23 boys, mean age 10 years, SD  $\pm$  1.6 years). Fourteen children (7 girls, 7 boys, mean age 9.5 years, SD  $\pm$  1.7 years) were children without disabilities. Eighteen children (2 girls, 16 boys, mean age 10.4 years, SD  $\pm$  1.4 years) had a variety of disabilities including physical disabilities (e.g. paraplegia), congenital malformations of the eye (e.g. congenital glaucoma), neurodevelopmental disorders (e.g. autism spectrum disorder, cerebral palsy), or syndromes with both physical and cognitive impairments. The 18 children with a variety of physical and cognitive impairments all attended special schools, as their impairments required special educational measures [30].

Children without disabilities were recruited directly on inclusive playgrounds by the first and second author and included in the study if they met the inclusion criteria. Children with disabilities were recruited through contact persons (e.g. occupational therapists, teachers) at the special schools. When no further aspects arose, no additional children were interviewed.

### **Data collection**

Semi-structured interviews and observations were collected by the first and second author, who are both experienced occupational therapists working with children. The interview guide was pilot-tested with four children with disabilities. These interviews were not included in the study. As a result, the questions were adapted so that they were more openly

formulated and concretely related to each playground. The final interview guide consisted of questions about what children played on the playgrounds, their favourite and least favourite activities and pieces of equipment on the playground, wishes they had for the playground, with whom and how often they visited the playground, and their play partners and different places on the playground. The semi-structured interviews were conducted in consultation with the children in a quiet place on the playgrounds and were audio-recorded. Caregivers were present during some interviews, especially for children with neurodevelopmental disorders. Interviews lasted from 10–30 min with a mean duration of 17 min.

In addition to the interviews, 30 h of observation data were collected by the first and second author to capture the social interactions on the inclusive playgrounds. An observational schedule, developed based on the PlayAUDIT [31], served to structure the observations. The PlayAUDIT is a structured observation tool to assess the design characteristics of a playground and its equipment in terms of accessibility, usability and play value. To gain further information about the social aspects of children's play experiences on inclusive playgrounds the observational schedule also guided the observations towards children's play partners on inclusive playgrounds. Observation data was collected according to the observational schedule before and after each interview. During the observations the first and second author documented the observations with detailed field notes by hand. Directly after the observations the authors summarized their handwritten field notes and added their personal reflections about the observed situations [32].

### **Data analysis**

Interviews were transcribed verbatim in German by the first author directly after they were recorded. During transcription, a pseudonym was assigned to each participant to guarantee confidentiality. As a first step, the transcripts were read several times by the first and second author so that they could familiarize themselves with the material. As a second step, meaning units were identified in the transcripts, then converted into condensed meaning units. Finally, codes were assigned to the condensed meaning units [27]. For a few transcripts, the first and second author identified and converted the meaning units into condensed meaning units separately from each other, then discussed them together and agreed on a joint

approach in identifying and converting meaning units. The first author then continued in line with the agreed-upon approach to convert the remaining meaning units into condensed meaning units. The codes were created in German to remain as close as possible to the data [33], then translated into English for the additional steps. For three interviews, the allocation of the codes to the meaning units was discussed among all four authors. As a third step, the codes were arranged for patterns to finally build categories. The descriptive notes from the observations were first analysed separately following the above-described steps. Then the results were linked together to improve and enhance the understanding of the interviews and the observations. The data analysis was performed with the software package ATLAS.TI [34].

## Results

The analysis resulted in the three categories *'I am climbing' – insights into children's play activities on inclusive playgrounds*, *'We and them' – invisible barriers on inclusive playgrounds*, and *'I would build' – design recommendations from children*. The three categories are described below.

### ***'I am climbing' – insights into children's play activities on inclusive playgrounds***

This category describes how children with and without disabilities describe similarities in play experiences but differences in the performance of the play activities. Further, the category describes how listening to and considering children's voices and play experiences can provide important insights into children's perspectives and what is important on a playground.

The results indicate that children with and without disabilities describe similar play experiences, though the way the children perform these activities often differs.

For example, climbing was a play activity often described in the interviews with children with and without disabilities. Observation of the children climbing revealed that the children climbed in their own way, according to their possibilities. Children without disabilities climb on various climbing frames and playground equipment with the aim of climbing as high as possible.

'This playground is really cool, because here you can go higher', Girl, 12 years, no disability

Children with disabilities also say that they climb, for example, by pulling themselves up with their arms

on a piece of playground equipment or by watching other children climbing and, through that, experiencing themselves as climbers. This was described by a boy who used an electric wheelchair and talked about how to climb the trees on the playground.

'We like to climb. Here on the playground, we could climb on the tree.' Boy, 12 years, physical disability (using an electric wheelchair)

Another example that illustrates the similar experiences in play activities, but the difference in performance between children with and without disabilities, is playing soccer. This example also illustrates that, especially for children with disabilities, there is a risk that their play activities will be misinterpreted if only observations are included. Observations of children in wheelchairs moving across a playing field and throwing a ball at each other did not show that the children were playing soccer. This became clear only in the subsequent interviews with the children. Other examples of incidences in which differences between observations and the experiences of children with disabilities were noted included play activities such as swinging, cycling, and playing catch. Children without disabilities stated, for example, that they cycled around the playground area with their bicycles and also liked to ride over obstacles. Similarly, children with disabilities, some of whom used wheelchairs, said that they liked to cycle around the playground area. The observations showed that children with disabilities often used tricycles or pedal go-karts or used their wheelchairs on the cycle tracks that some of the playgrounds had.

These examples suggest that there is a difference between the perception of the observer and how children with disabilities themselves experience their play activities. The interviews with children, especially children with disabilities, thus provide important insights into their subjective experience of playing on the playground.

The results further indicate that children with and without disabilities describe themselves as competent in carrying out play activities on the playground. Children with and without disabilities indicated that they experience no restrictions regarding the use of play equipment on the inclusive playgrounds.

'I find the playground equipment cool!' Boy, 11 years, with a disability

'Actually, I like everything on the playground.' Boy, 11 years, no disability

Because inclusive playgrounds have fewer barriers in the physical environment as compared to



conventional playgrounds, children with disabilities describe the inclusive playgrounds as ‘cool’ and experience the play activities in which they can participate as being ‘great’. Children without disabilities especially like the fact that, on inclusive playgrounds, due to the design of the playground equipment, they can have play experiences different from those available on conventional playgrounds. The many possible ways to use the playground equipment on an inclusive playground seem to strengthen the children’s self-confidence. Children in wheelchairs can also experience themselves as ‘climbers’.

### ***‘We and them’ – invisible barriers on inclusive playgrounds***

This category describes the presence of invisible physical, attitudinal, and social barriers on inclusive playgrounds that limit interaction between children with disabilities and children without disabilities. If an interaction does take place, it enhances separation rather than inclusion.

Invisible physical barriers on inclusive playgrounds were noticeable, for example, in the way the children experienced their belonging to a space on the playground. In particular, children with disabilities separated themselves from children without disabilities.

Children with disabilities experienced the playground, which neighboured their school building but was open to the public, as a place intended only for them.

‘And this is our playground. Ours! They are there, and we are here.’ Boy, 11 years, physical disability

Also, the observations on the playgrounds showed that the children with and without disabilities seemed to know exactly which areas they could stay in order to belong to their group.

This was, for example, observed on a playground shared by a school for children with disabilities and a school for children without disabilities. As soon as the children without disabilities reached the playground, which is closer to the school for children with disabilities, they immediately changed direction and ran back to ‘their’ area.

Another distinction made by children with disabilities was related to invisible attitudinal barriers, e.g. belonging to a group with certain abilities. From the interviews, it became clear that children with disabilities were aware of when they could not perform a play activity in the same way as children without disabilities or more physically able children. For example, one boy explained that he did not want to

play soccer with physically more capable children because they could run faster.

‘I don’t want to play soccer with children who are pedestrians, because pedestrians are faster than children in manual wheelchairs.’ Boy, 11 years, physical disability

So, the children distinguished themselves from others based on their abilities and expressed the wish to play with children who had similar abilities. Thus, the disability itself could be seen as an invisible attitudinal barrier on inclusive playgrounds.

Furthermore, children with disabilities made distinctions between children with different disabilities. Examples from the interviews that illustrated these distinctions were that children with disabilities said they wanted to play only with children who had a disability similar to their own. Thus, the children wanted a play partner with similar abilities against whom they could measure themselves while, at the same time, having a chance to be successful. This mutual measuring and mastering of challenges seemed to be central to children with and without disabilities.

Invisible social barriers were noticeable in the social interactions between children with and without disabilities. The invisible social barriers suggest that children with and without disabilities lack strategies for successfully interacting with each other. An example of these missing strategies is that children with disabilities said they would like to be friends with children without disabilities but they have not been able to make friends with these children.

‘They don’t want to make friends with us, that’s the problem!’ Boy, 11 years, physical disability

On the other hand, children with disabilities described how they teased and bullied the children without disabilities. Here, contradictory behaviour forms an invisible social barrier.

Another example of an invisible social barrier was that a child wanted to use the slide but did not dare slide down because two children with a disability were sitting at the entrance to the slide. The two children with a disability made extra space for the child without a disability and invited the child several times to slide but the child without a disability did not dare to slide down and went away. This left the boys disappointed. Again, in this situation, there seems to be an invisible social barrier related to social interaction that may be due to insecurity or a lack of communication strategies.

Furthermore, the children with disabilities said that they had hardly any contact with children without

disabilities on the inclusive playground. Because the children barely know each other, the children with disabilities prefer to play with other children with disabilities whom they know.

‘We don’t play together because we don’t know them, so I don’t know these people.’ Boy, 12 years, physical disability

The observations showed that there is hardly any contact between children with and without disabilities on the inclusive playgrounds. Thus, it was possible to observe how children without disabilities observe the play of children with disabilities, though no social interactions occurred that led to joint play activities. Also, in the interviews, children without disabilities did not talk about playing with children with disabilities. Thus, it can be said that although inclusive playgrounds are accessible and usable, the invisible physical, attitudinal, and social barriers to social interaction prevent children with and without disabilities from playing together on inclusive playgrounds.

### ***‘I would build’ – design recommendations from children***

This category indicates that, due to their experiences, children with disabilities could be considered experts in the usability of inclusive playgrounds and could be involved in the development of inclusive playgrounds. This is because children with disabilities are aware of their own needs as well as the needs of children with different disabilities.

The interviews with children with disabilities revealed that they pay attention to usability and how an inclusive playground meets their needs. This, in turn, enables them to provide special design recommendations for inclusive playgrounds. The results indicated that children with disabilities might have different or additional needs, e.g. an extra handrail, as compared to children without disabilities. This is illustrated by the statements made by children with disabilities regarding the usability of playground equipment and the suggestions they made for improvements in the design of playgrounds. For example, a boy in a wheelchair said that the fall protection floor on the playground is not very popular among wheelchair users because increased force is necessary to drive the wheelchair over the soft fall protection floor.

‘I can drive better on concrete.’ Boy, 11 years, physical disability (using a manual wheelchair)

The importance of addressing the design recommendations and implementing them for children with disabilities was also confirmed by the observations. This is reflected by the field notes of the observations on an inclusive playground where children with disabilities were involved in the design process. On this playground, a significant portion of the ground is concrete to facilitate the movement of children in wheelchairs. This cooperation with the children made it possible to provide creative play opportunities for children with different needs. On this inclusive playground, it could be observed that the concrete square offered opportunities for a variety of play activities and that many children with disabilities were there.

The observation of these and other small adaptations, such as handrails or extended entries and exits on slides, shows that small changes to the play equipment can be crucial to the participation and use of the play equipment by children with disabilities. To recognize the possibility of such small changes, which can have a significant influence on whether children with disabilities play on playgrounds, it might be important to consider the design recommendations of children with disabilities.

Based on the interviews with children with disabilities, it became clear that the children are aware of the different abilities of their peers and can provide information about how playground equipment should be adapted to meet the needs of children with different disabilities.

‘I would set up a small table to eat snacks where wheelchairs can also go, or for people who have broken their legs and simply those who are otherwise in the wheelchair. For electric and manual wheelchairs. I would put a table that is lower for the hand wheelchairs and I would make the one for the electric a bit higher. Yes, and when it’s really very cold in spring, I would make a bit like a heater. To have a small chair that can be heated. Yes. And otherwise, next to it, when it’s hot, you can just make another table to eat snacks.’ Girl, 12 years, physical disability

These design recommendations from children with disabilities also showed that the children have a kind of ‘inclusive thinking’. The children were aware of each other’s abilities and could adapt their games so that children with different abilities could participate. This ‘inclusive thinking’ also flows into the experiences and recommendations they made to improve the playground in a way such that children with different abilities can have more opportunities for interactions. These experiences also show that inclusive playgrounds do not yet meet all the needs of children with disabilities.

## Discussion

The study aimed to explore children's experiences of playing on inclusive playgrounds. Inclusive playgrounds are complex environments that must address the needs of children with different abilities. To better understand the complex environment of inclusive playgrounds, the interplay of the physical, attitudinal, and social environments will be discussed from a transactional perspective. The transactional perspective considers the person, environment, and occupation as co-constituting parts of each other and constantly transacting with each other [35]. Thus, the environment is not limited to its tangible physical form but, rather, extends through other environments such as, e.g. social, cultural, or political ones [35]. There is a constant transaction between the children playing on inclusive playgrounds and the physical (e.g. playground design), social (e.g. prevailing norms and attitudes), and political (e.g. regulations) environments of those playgrounds. A transactional perspective was chosen because the findings of the study indicated that though changes in the visible physical environment seem to be an important aspect in the creation of inclusive playgrounds, aspects from the invisible social environment, for example, are equally important to achieving inclusion on these playgrounds.

One complexity seems to be social interactions on inclusive playgrounds. Children's experiences indicate that children with disabilities are not included in the play of children without disabilities and vice versa. Invisible social barriers and the perception of 'we and them' impact inclusion on inclusive playgrounds. Thus, though the physical environment supports the participation of children with disabilities, they do not yet participate in a wider community as the understanding of inclusion would imply. The perception of 'we and them' indicates that, especially for children with disabilities, the attitudinal and social environments create perceptions of belonging to a specific place or group, which leads to a situation in which children with disabilities socially interact and play with only their peers who have similar abilities as themselves. Another reason that might contribute to children staying and interacting within their peer groups on inclusive playgrounds might be found in the school system with special and regular schools. It is likely that children visited the playgrounds with their friends from school, especially for those playgrounds that were located next to a special school. Thus, the segregation between children with and without disabilities caused by the school system might

continue, even unintentionally, on the inclusive playgrounds [36]. However, inclusive playgrounds should be places to encourage inclusion regardless of which school the children attend. Similar to the findings of our study, Jeanes and Magee [11] found that the feeling of belonging to a group and a space is influenced by perceptions of the social environment of a playground, e.g. by attitudes towards children with disabilities. The findings of Jeanes and Magee [11] and the findings of our study illustrate the transaction of the physical, attitudinal, and social environments on inclusive playgrounds. Furthermore, the findings show that inclusion on inclusive playgrounds will not be achieved by considering the social environment separately from the physical environment. In terms of creating inclusive playgrounds, the importance of the social environment, with a focus on societal attitudes, has been confirmed by different studies [11,37,38]. To address these invisible barriers in the social environment, approaches such as the use of trained playworkers to create play opportunities between children with and without disabilities by supporting the play activities of all children and promoting the independence of children with disabilities have been described by Jeanes and Magee [11] and Woolley With et al. [38]. Or, as indicated in this study, the need to know each other before entering the playground might suggest the necessity of further investigation into how children with disabilities who are integrated into regular schools perceive their participation and inclusion on inclusive playgrounds. Together with the other necessity of further investigation another area of interest for further investigation would be to explore how the segregation created by the special school setting affects the participation of children with disabilities on inclusive playgrounds. In which sense inclusion should be the aim of inclusive playgrounds could also be questioned. If children experience belonging to a group and have their own 'secure' space on a playground, they might have a feeling of safety and self-efficacy. On the other hand, separation might negatively impact social interactions and friendships between children with and without disabilities on inclusive playgrounds and maintain the societal barriers between people with and without disabilities.

Another complexity of inclusive playgrounds could be seen in the differences between how children with and without disabilities experience play activities and how these experiences are often perceived from an adult's perspective. The results show that the design of the playground enables children with disabilities to



experience similar play activities as those of children without disabilities. However, the findings also show that the subjective experience of play activities of children, and especially of children with disabilities, could be interpreted differently by adults based on how the child experiences the play activity. Similar to the results of this study, Graham et al. [39] found that children with cerebral palsy experienced play in different ways, e.g. by watching other children play, as compared to children without disabilities. Furthermore, adults often underestimate the play capabilities of children with disabilities [40]. Thus, it might be important to consider the children's view in order to fully understand their experiences on inclusive playgrounds. These insights might be especially valuable in informing the design of inclusive playgrounds and contributing to an understanding of its complexity.

Studies with playground providers on a political level have shown that the playground providers lack the perspective of children with disabilities and their families [1,41] and, rather, focus on the physical accessibility of a playground instead of on the aspects of the social environment [42]. Furthermore, to meet the aim of inclusion, guidelines for the design of inclusive playgrounds and national play policies should focus more on the incorporation of the perspectives of children with diverse abilities [31]. The recommendations to also include children with disabilities support the results of this study, which indicates that, in the design of inclusive playgrounds, it might be important to obtain the perspectives of children with disabilities. The children with disabilities in the present study showed 'inclusive thinking', meaning that they were aware of the needs of their peers with different disabilities and made suggestions to adapt playground equipment in order to increase the inclusion of children with disabilities. This awareness might come from their personal experience of having a disability. At the same time, children need support to formulate realistic expectations towards inclusive playgrounds. Thus, it might be important to include an adult's long-term perspective for the sustainable planning of inclusive playgrounds. Ataol et al. [43] indicated, in a literature review about children's participation in urban planning and design, that different stakeholders, such as children, parents, and planning specialists, should collaboratively plan together.

Furthermore, the findings of this study are in line with the findings from Moore and Lynch [37] and Serman et al. [42] and indicate that the physical and social environments transact with the political

environment. The importance of the inclusion of children with disabilities in the planning and design process of a playground in order to make inclusion happen is also stressed by others [1,11,44,45] and is in line with the findings of the present study. The results showed that children bring a unique and valuable perspective to the construction of inclusive playgrounds. In particular, the perceptions of children with disabilities should be included, as they are aware of the different needs of children with different types of disabilities and make valuable suggestions to address those needs.

From an occupational therapy perspective, the application of a transactional model could have several implications. Occupations, such as play, should be considered methods through which people perform in interconnectedness with the environment [35]. Thus, the occupations are in a continuously changing relationship with the environment and the person and develop through this relationship [35]. For occupational therapists, this could mean that, in addition to the occupational performance of a child with a disability on a playground, other considerations should include the interconnected physical, attitudinal, social, and political environments, as well as their impact on the child and the occupation of play.

Thus, occupational therapists could become active agents at political, community and planning levels, applying a transactional perspective to improve the quality of use of playgrounds and, thus, the occupational rights of children with disabilities by facilitating the participation of children with disabilities in planning processes for inclusive playgrounds. Eventually, such a co-constituting process might influence society on the micro, meso, and macro levels and lead to more social inclusion and participation of children with disabilities. Through this process, occupational therapists could become active advocates for occupational rights and the right to play for all children.

## Methodological considerations

To explore children's experiences of playing on inclusive playgrounds, a qualitative descriptive design was selected because it reflects experiences and observations that are close to those of everyday life [46].

The study sample was heterogeneous regarding whether or not the children had a disability and the type of disability and included boys and girls, with a higher proportion of boys. The overrepresentation of boys in the sample could be seen as a limitation of the study. However, the heterogeneity of the sample

made it possible to obtain a varied picture of the children's experiences. Furthermore, the data collection on different inclusive playgrounds and the use of interviews and observations for data collection contributed to the examination of the experiences of children from different perspectives.

In terms of transferability, the results of the study could be relevant to other studies investigating inclusive playgrounds in natural environments, as, ideally, such inclusive playgrounds involve children with a range of disabilities and children without disabilities.

Regarding the data collection methods, a limitation of the study might be that only one interview was conducted with each child. Repeated interviews might have enhanced the credibility of the study and provided more in-depth information and understanding of the children's perspectives. This could have been particularly valuable for those children whose interviews were rather short. However, a strength of the study is that the interviews were conducted directly on the inclusive playgrounds. The authors believe that, due to this proximity to the inclusive playground, the children could more easily express their experiences of playing on inclusive playgrounds.

To increase the dependability and authenticity of the study, the findings of the study were regularly discussed by the first and second authors at different points in the data analysis process. Additionally, the third and fourth authors critically questioned the results at various stages of the analysis process and supported the first and second authors in maintaining balance between interpretation and abstraction of the data [47]. Furthermore, quotations from the interviews and situations from the observations were used to illustrate the findings as another measure to strengthen dependability.

## Conclusion

The results of this study suggest that, to achieve inclusion on inclusive playgrounds, the physical, attitudinal, social, and political environments must be regarded as interrelated. Inclusive playgrounds are complex environments that must meet the needs of children with different abilities and types of disabilities. Invisible social barriers impact inclusion on inclusive playgrounds. Addressing these barriers is an important step towards the promotion of inclusion on inclusive playgrounds. Furthermore, children with and without disabilities must be involved in playground planning by sharing their perceptions with decision-makers at the political level.

In the process of making inclusive playgrounds, a place for inclusion occupational therapists could help to mediate between children with disabilities and politicians in processes of playground planning. Thus, the consideration of a transactional perspective could be helpful for occupational therapists to address the transaction of the environment in playgrounds and help to promote occupational justice and children's rights to play.

Further research should examine the understanding of inclusion on inclusive playgrounds from the perspective of children with and without disabilities, and derive possible measures to promote inclusion in public spaces and society.

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