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Advancing play participation for all: The challenging of addressing play diversity and inclusion in community parks and playgrounds

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[AQ: Universal Design has been changed to universal design where appropriate since it is usually written in lowercase except when part of a title. Please check]

Abstract:
Introduction: Outdoor parks and playgrounds are important sites of social inclusion in many urban communities. However, these playspaces are often inaccessible and unusable for many children with disabilities. This paper presents findings from a case study of one urban municipality in Ireland. The study aimed to understand play participation in five local playgrounds by exploring perspectives of families with diverse abilities and play providers, through the lens of universal design.

Methods: Multiple qualitative methods were used, including playground audits, walk-and-talk observations, and semi structured interviews. Four play providers, twelve children and ten adult users took part. Inductive analysis was conducted to understand usability and accessibility of playgrounds from a universal design perspective.

Findings: These playgrounds provided high play value for younger children, but low play value for older children and those with disabilities, due to lack of accessibility or usability. While local authorities aimed to provide inclusive playgrounds, they lacked knowledge on universal design for playspaces.

Conclusion: Children with disabilities continue to experience exclusion in community playspaces, despite a commitment to inclusion in local authorities. Play providers need support to tailor principles of universal design to playground design. Occupational therapists are ideally situated to collaborate with local authorities on universal design for enhancing children's play participation in community settings.

Keywords:
accessibility; usability; play value; universal design, occupational therapy

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Introduction:

Occupational therapy practice is underpinned by the study of occupation and in children's occupational therapy, play occupation is a central concern. Within the play domain, outdoor play has a special role in contributing to health and wellbeing. For example, in systematic reviews of the benefits of outdoor play, evidence shows that engagement in free play in nature is associated with positive impact on mental health, self-regulation, and increased physical activity (Gill, 2014) alongside positive effects on social health and behaviours (Brussoni et al., 2015). Contact with nature helps people recover from stress (Wells & Evans, 2003) and is self-restorative for children (Korpela et al., 2002). Play outdoors is less sedentary and more physical than play indoors, and due to the increased opportunities for risk-rich play, is associated also with stronger risk management behaviours, and increased self-esteem and independence (Herrington et al., 2017).

Lately, there are growing concerns about children's limited access to outdoor spaces for play. Factors that impact on children's outdoor mobility include restricted access to gardens, green areas, increased urbanisation and busy home and working lives (Kilkelly et al., 2016). Furthermore, for children with disabilities, the situation is potentially amplified, as there are additional factors such as attitudinal, physical, and social barriers that result in reduced participation in leisure and play compared to other children (for example, Anaby et al., 2013; Schreuer et al., 2014). Consequently, many play researchers are alarmed at the potential risk of not engaging in outdoor play, and the associated rise in childhood psychopathology (Gray, 2011). Therefore, it is important for occupational therapists to take seriously the need to enhance play participation and increase their understanding in how places support or prevent participation in play occupation.

Public parks and playgrounds are special places where communities can gather, socialise, rest and participate in play. As a result, they provide important opportunities for intergenerational social connections, neighbourhood satisfaction and community attachment in many urban settings (Arneberger and Eder, 2012). However, a particular barrier to the use of community parks and playgrounds has been attributed to poor design, resulting in inaccessible or unusable spaces for many families (Moore and Lynch, 2015). For example, in studies with children with disabilities, researchers have found that children are often excluded from participating in community play often due to inaccessibility and unusable playground components (Olsen and Dieser, 2012; Prellwitz and Skar, 2007). Researchers in Sweden and Australia interviewed playground providers to explore the decision-making around municipal playground provision. They identified that playground providers often have insufficient knowledge about diverse users and designing for inclusion (Prellwitz and Tamm, 1999; Sterman et al., 2018). In addition, in a review of play policy in 18 European countries, researchers identified another contributing factor: there is a lack of policy and guidelines internationally and a consequential lack of accountability on how to provide accessible and usable playgrounds for all children, including those with disabilities (Lynch et al., 2018).

The United Nations (UN) provides some policy direction on approaching play from a rights-based occupational justice perspective. The United Nations Convention on the Rights of the Child (UNCRC, 1989) has established the right to play and leisure as a right for all children, including children with disabilities – Article 31. According to this convention, children should have both space and opportunity to play outdoors unaccompanied in diverse and challenging physical environments. Yet, despite this clear statement of duty, the UN Committee on the Rights of the Child (CRC) published an authoritative statement on Article

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31 to address growing concerns regarding the lack of realisation of children's rights to play - General Comment No. 17 (Committee on the Rights of the Child (CRC), 2013). Poor recognition of the significance of play in the lives of children was noted as a primary contributor for insufficient investment in appropriate provisions (such as playgrounds), and weak or non-existent protective legislation (CRC, 2013). The CRC specifies the need to put in extra efforts to help children with disabilities to realise their rights and recommend a universal design approach along with opportunities to experience, interact, and play in natural environments (CRC, 2013).

Universal design is 'the design of products and environments to be usable by all people to the greatest extent possible without the need for adaption or specialised design' (World Federation of Occupational Therapists, 2012). In universal design, the need to design environments that are not just accessible but also usable, is central (Iwarsson and Stahl, 2003). Usability extends beyond accessibility, and does not focus on official standards and guidelines; instead, it embraces individuals' subjective evaluations of performing an activity within an environment (Iwarsson and Stahl, 2003). For example, a playground may be accessible, with pathways designed to reach every playground component, but this is of no use if the slide or swing are not usable once the child gets to it. In the 1990's, a consortium of researchers in the USA identified seven core principles of universal design that inform good practice in designing for social inclusion (Connell et al., 1997). This will be explored in the discussion. Yet studies that report on universal design in parks and playgrounds show inconsistent and interchangeable use of the terms accessibility, and usability, with varied application of the principles of universal design, if considered at all (Lynch et al., 2019). This lack of consistency consequently results in a continued lack of evidence to inform best practice in inclusive playground design and provision.

In summary, community parks and playgrounds have become important intergenerational sites for children and families for health and wellbeing. As an emerging concept, universal design is promoted as a means of ensuring inclusive environments are provided for children with or without disabilities and their families. However, there has been limited research on the design and provision of community playgrounds from a universal design perspective. As such, the aim of this research was to examine the applicability of universal design as a specific design approach to support play participation and inclusion in five parks and playgrounds, in one local council area in a city in Ireland. The specific objectives of this research were:

a. To investigate the experiences of accessing and participating in play in public parks and playgrounds from child and adult perspective; and
b. To explore the experiences of local council park and playground providers in relation to the design and provision of inclusive public parks and playgrounds.

Ethical approval was obtained in November 2017 from the Social Research Ethics Committee (SREC) of University College Cork (ref: 2017-112), and the study was conducted from November 2017 to April 2018.

Method:

The study adopted a multi-method qualitative case-study approach (Creswell, 2007), which was designed around five park-playground units, as the unit of analysis. Case study methods consider multiple viewpoints by combining multiple methods and are suitable for the study of life events in context (Salminen et al., 2006). Multiple qualitative methods were selected to triangulate data from varied sources. These included playground audits (for play value, universal design and usability), walk-and-talk observation interviews in each site, and semi-

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structured interviews. A steering group of eight playground advocates, parents, and designers, and inclusion advocates was formed to guide the project and strengthen the trustworthiness of the design, implementation and analytical approaches employed. This steering group reviewed tools for data generation, provided guidance on recruitment, and provided expert opinions that helped inform the project implementation and the final report.

One local city council was selected through convenience sampling to represent the case study. The five study sites were then nominated by the municipal representative and selected for the study due to a combination of factors: a) all sites were under the authority of one local council, who were responsible for a large city. This was an important factor for conducting interviews with one team of council staff who worked together to provide accessible and usable facilities for one community; b) all sites were publicly-funded park-playground units, developed for use by local communities. This was to differentiate them from commercialised playground settings; c) one site was a large regional, city centre park, while the other four sites were small local facilities, built in areas of lower socioeconomic status. This factor aimed to ensure a variety of types of settings; d) all playgrounds contained at least three basic playground components (swing, slide, and climbing structure with ropes and climbing wall), with the regional playground containing 14 varied playground components in total. This served to provide a baseline of play components with which to compare across sites.

Recruitment:
Once these sites were identified, participant recruitment was aimed at recent users of these five sites. Recruitment of child-adult dyads was conducted by contacting a range of stakeholders, including local community groups, city councillors, schools, and local playground committees. Inclusion criteria included dyads of children and adults (who typically accompanied them to the park-playgrounds), of diverse age, physical size, and ability. It was important to recruit varied sizes of playground users, as it can be common for children with cognitive impairments for example to still enjoy playgrounds as adolescents, and therefore present with relative needs in relation to the dimensions of playground components. A series of meetings took place with these groups, to explain the project and clarify procedures, and to seek informed consent from the adults and children. Ten child-adult dyads gave written consent to take part (see Table 1). In addition, a second group of participants were recruited from the local authority with support from the superintendent of the park's division. Four municipal playground providers, with expertise in engineering, horticulture, and park maintenance, gave written consent to take part (see Table 2). In total, 22 park-playground users participated (12 children and 10 adults), and 4 providers.

Table 1. Child and adult dyads who participated in the study

Table 2. Local council park and playground providers

Data collection:
During the establishment phase of the project, the researchers identified that there were no suitable tools to conduct a universal design audit that comprehensively addressed a playability perspective. Hence the researchers developed a PlayAUDIT process to conduct data collection on the usability, accessibility and playability of the playgrounds, guided by the Centre of Excellence in Universal Design, Ireland. A PlayAUDIT was conducted in the five parks and playgrounds to determine potential play value and accessibility (see Lynch et al., 2018). This was followed by a walk-and-talk audit to determine actualised playability and usability which took place over one to two hours, with child-adult dyads in the selected park-

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playground units. One researcher asked the child(ren) questions and observed their play, and the other researcher asked the adult questions. Questions related to onsite play preferences, play choices and barriers and enablers for play, drawn from a review of varied existing tools. Field notes were transcribed and analysed. Semi-structured interviews were conducted with four local parks and playground providers, typically lasting 45-60 minutes. Providers were asked specifically about designing for intergenerational use and universal design in park and playground provision. Interviews were recorded, transcribed and analysed.

Data analysis:
Various methods of analysis were utilised, drawing from case-study design and qualitative description. Data from the park-playground audits were used to inform the analysis. They served as background information for elicitation in interviews and are beyond the scope of this paper. Interview and observation data from participants were inductively coded and categorised separately and then combined to form core themes for each participant, (according to each play event and considering each park-playground site separately) by the lead authors who have extensive experience in play research. A thematic analysis approach was used to identify key themes across the different participants across all the sites (Braun and Clarke, 2006). Peer debriefing supported further categorisation, resulting in the identification of core themes.

Findings:
Analysis led to the identification of three core themes: (1) play value relating to user's perspectives and experiences; (2) parks and playground provision: catering for communities, maintenance, risk and management; and (3) barriers to inclusion: when playgrounds are not usable and not playable. The participants identities have been protected in the presentation of the findings below.

Play value relating to user's perspectives and experiences
Overall, these parks and playgrounds are intergenerational sites, where children typically use the playgrounds in the company of adults. These included family members - mothers, fathers, siblings, aunts, grandparents - but also childminders and teachers. Reasons for visiting each site was primarily based on the location of the parks and playgrounds: *We live locally. This is our nearest playground… [Mother of boy with Down Syndrome, aged 11]***,** which contributed to a feeling of ownership: *This is my own park. [Father of a boy with Autism, aged 9]*.

Adults often brought the children through the park on the way home from school or to the shops nearby, so stopping at the playground was part of making the journey enjoyable. However, for some, the local park was the only greenspace accessible to them and became a destination in itself:

> *I used to visit more when the children were smaller and enjoyed visiting for the space for the freedom it offered. We have no back garden or green area nearby so the big green* area *[in the park] allowed for the children to play ball [Mother with visual impairment]*

Participants reported enjoying having a park nearby because of the social opportunities the children had there, such as: *play[ing] soccer and meet[ing] friends … [Boy, age 8; Boy with Autism, age 9]*. Children commonly met others from their communities to play with: *other kids at the park … keep the kids occupied … more independent [Grandmother of girl, aged 7]*. For some, using the park-playground was also about having access to nature: *fresh air*

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[Grandmother of girl, aged], and playing with natural materials: *hole in tree and looks for water … stick and picks at it [Mother of boy with Autism, aged 5]*. Consequently, the adults expressed feeling a sense of belonging, and that belonging was highly associated with the positive experiences they had there.

While the presence of others was a key feature of belonging, the presence of amenities in each site mattered also. This was most prevalent when talking about the large regional playground, which was valued: *because of what's on offer. The variety. There's much more facilities [Mother of boy with Down Syndrome, aged 11],* and*: stuff for all ages (Girl, age 7)*, with components such as a : *slide and climbing wall (Boy, age 11)*. In this playground, the playground components were bigger and higher than those in the local playgrounds, providing more challenge.

However, in all five playgrounds, children and adults spoke about the importance of play opportunities for fun and enjoyment. Their comments largely featured around affordances for physical play such as: t*he climbing wall … for going up high and climbing [Girl, age 7; Boy, age 10]*, and s*wings [for] going high … roundabout [for] going fast and spin around [Girl, age 6]*, or the s*lide and climbing wall [Boy, age 11]*. Interestingly, while the regional playground contained many more playground components, children still valued the same play opportunities as in the local playgrounds: climbing, swinging and sliding being the favourites. Notably, a successful visit to the park did not always involve equipment. Instead, participants often brought their own playthings to the playground, sometimes to play themselves: *she brings her dolls buggy, scooter, bike [Father of girl, aged 6],* or sometimes with each other: [we] *bring ball [for soccer]. Play soccer with them [two older sons]… kicking ball … have fun with them [Father of boy, aged 8 and boy with Autism, aged 9]*. Sometimes, it was just about having space to play: *playing … space [Girl with physical impairment, age 9]*.

Overall, these five parks and playgrounds contributed to the wellbeing of local communities by providing space for connecting with others, and having fun, which contributed to a sense of belonging and ownership. While the children in this study used their parks primarily based on adult choice to visit, this was also determined by the adult desire for the child to be happy. Children reported having fun because of having favourite things to play on and having friends to play with. For older children, the favourite things to do involved more challenge such as climbing walls, or more commonly playing games such as soccer.

Parks and playground provision: catering for communities, maintenance, risk and management

Perspectives from those involved in providing and maintaining parks and playgrounds demonstrated the perceived significance of playgrounds in providing inclusive spaces in local communities, specifically relating to social disadvantage. In particular, provision was targeted at being accessible to all and free of charge: *… for the reason being that obviously lower socioeconomic groups have less opportunity to access recreational facilities [Council staff]*.

There was a general agreement among providers that parks and playgrounds are provided to meet the intergenerational needs of local communities, requiring them to cater for the interests of people of different ages. For younger users, the primary focus was on providing park-playground units that offer challenging varied play opportunities:

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> *More physically challenging items, you know, you've zip wires, and you know, you're into MUGA's [Multi-Use Games Areas] … [Council staff 2]*

For adult users then, the primary focus was on the provision of spaces that encouraged physical activity and social interaction:

> *… to provide somewhere for the residents of the area to go, to get, I suppose, physical activity, to communicate with other kids, to interact with other kids, for parents to meet each other… [Council staff 3]*

Moreover, providers noted that parks and playgrounds are provided for a number of reasons related to health and wellbeing:

> *It's all back to the modern lifestyle, the absolute necessity now for good outdoor space … it's about exercise, you know, general health, socialising … [Council staff 2]*

From the playground perspective, play opportunities are provided based on several reasons, including basic expectations: *the big representation on playgrounds is the requirement for more [equipment] where there isn't one [Council staff 1]*. These expectations typically involve core playground items:

> *There'll probably be a list of fairly standard items that people want to see there because they're just well used … you know swings, slides, stuff like that [Council staff 2]*

However, providers identified that consultations with playground users consistently highlight the need to include swings, slides, and roundabouts and in full sight of the adult. Some providers proposed that this may be an indication of lack of understanding of play value and the need for free, independent play: *they certainly seem conditioned - I am not convinced they fully appreciate what they should have in the playground [Council staff 2].* This illuminates a mismatch between what the residents wanted in their community playspaces and what the providers deemed appropriate, identifying that residents wanted particular play items that were familiar to them.

Nevertheless, providers also noted a number of challenges in the planning, design and provision of parks and playgrounds, which can determine and limit provision. These included funding, maintenance, balancing risk and safety, and providing for diverse user groups. For example, while providers recognised the need to allow for basic risk as part of play, providing for risk was curtailed by regulations and safety standards:

> *I know we have designed out the risk factor completely and utterly and kids should be able to fall on their knees, pick themselves up and off you go … [however] the bottom line is, you know, it has to be compliant with regulation [Council staff 3]*

Maintenance (wear and tear) and vandalism were identified as ongoing challenges in the provision of parks and playgrounds: *because it is there over ten years … you have the continual wear and tear, you do get vandalism … all the problems with anti-social activity and vandalism … [Council staff 3]*

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Therefore, costs associated with playgrounds were significantly related to ensuring they were maintained, safe and usable. However, providers also saw funding as a limiting factor for exploring design solutions for accessibility in playgrounds. As participants noted: *... if funding was not an issue you would be making sure that all the playgrounds were accessible for everybody ... [Council staff 4].* As such, providers spoke about the prohibitive cost associated with the provision of specialised design solutions for persons with additional needs that often had to be overlooked because of maintenance and vandalism costs. This was an ongoing frustration for the local council.

To summarise, perspectives from those involved in providing and maintaining parks and playgrounds demonstrate the perceived significance of playgrounds in providing inclusive spaces in local communities, particularly in areas of social disadvantage. Nevertheless, numerous competing factors govern provision, that result in inevitable trade-offs.

Barriers to inclusion: When playgrounds are not accessible, not usable and not playable

Participants in this study were users of playgrounds, and park and playground providers. This third theme combines both perspectives to illuminate challenges in designing for inclusive playgrounds.

The park and playground users in this study had experiences of when playgrounds are not usable. There was a general agreement by all participants that playgrounds were unsuitable spaces for some children based on age, mobility, visual and social difficulties. For example, in each of the five sites, children reported that the playground were unsuitable for older age-groups, due to the lack of play value for older children, and believed playgrounds were for younger children (smallies) in reality:

> *My brothers are too big [brothers age 11 and 15] – it's only for smallies [Girl with visual impairment, age 5]*
>
> *Not for over 10's [Girl, age 7; Boy, age 10]*

Children reported that there was no longer any fun in the playground, even the regional one, for older children. This they attributed to the lack of challenge, and the need for higher swings, and faster slides, which would require the design of larger playground components. These playgrounds are all designed for children up to 12 years yet according to the children who used them, were not playable for older children.

From the playground providers perspectives, playgrounds are designed primarily for children under 12 years (i.e. from an anthropomorphic perspective, based on typical size and shape of children). However, this results in excluding some older children who may still enjoy playing on these play components, for example a teenager with intellectual disability:

> *Personally, I don't think a playground is a space for a young adult who has disabilities ... when you are that size ... you have to look at it from a small set of eyes up as well. It can be very intimidating ... it's a very difficult one to marry the two [Council staff 3]*

Therefore, there is a tension between designing for size/age and designing for play needs of diverse users. Playground providers reported that playground standards guide provision and primarily focus on safety. Within these standards, playground equipment is restricted

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according to age, for insurance purposes. Thus, providers are restricted by safety standards rather than play standards, and the consequence is that playgrounds may not be inclusive spaces for older children, nor usable for younger children due to limited play value. Some users had personal experience of inaccessible design of play components and lack of equitable use, which meant that they were unable to access, and use the play components:

> *I'm not able to go on stuff. I am able to go on the swings with my mam … because mam helps… I just look at them and that's not good for me… it makes me feel odd [Girl with physical impairment, age 9]*

In this case, the local playground had no ramps in lieu of inaccessible ladders nor playground components that were usable by a person with diverse physical abilities. For this girl, her experiences in the playground were changing. When she was younger, her mother could overcome the access barriers and lift her from her wheelchair to hold her on the swing but now she was bigger this was not always possible. Her experiences of feeling excluded were becoming more evident. For other children, the parents noted the barriers relating to poor design:

> *No sense of danger … leg through ropes [climbing nets] [Father of boy with Autism, aged 9]*

> *For people with visual impairments – providing brighter/ colour contrast would work well. [Mother of girl with visual impairment, aged 5]*

For these children with varied impairments, their parents had to guide them away from dangerous zones. This was primarily the result of poor design features that did not prompt the children for potential hazards.

Although providers were aware of barriers to inclusion, they noted that providing accessible parks and playgrounds is a challenge, particularly in relation to providing for wheelchair users, and that the four playgrounds built over 15 years ago, were not built with inclusion in mind:

> *I was only looking back over (old) contracts…and I don't think accessibility would have been part of that work criteria [Council staff 3]*

Notably, providers were unsure of how to design for inclusion, and considered that universal design was conceptualised as designing for persons with impairments rather than the general population:

> *Whether it ticks every box in full is, you know, that might be utopia but you can go in and you can do, you've a certain number of items that you would hope every kid can sort of access … there's a whole range of disabilities as we know, and that's [what] the difficulty is, how can you cater for each individual … [Council staff 1]*

Yet, providers were committed to the principle of inclusion for all, for example, focusing on providing spaces that facilitated interaction and a sense of belonging:

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> *Through the years we've seen the typical sort of you know, the fenced off area for toddlers … whereas, the inclusive idea is that the interaction between kids brings on the younger kids or brings on, the less able kids [Council staff 2]*

> *it's the feeling that once you've entered the particular zone, is that you are part of something … and its distinctly not segregated [Council staff 2]*

Overall, providers reported addressing accessibility through provision of wheelchair accessible footpaths primarily but had little knowledge about inclusive design for playground components; with no national guidelines for support their work. Instead, they relied on external expertise:

> *It was an area we felt we needed to have some specialist input on the project … we haven't gone down that route yet of taking very specific training. We've relied on the advice of input from [UK-based commercial playground providers] [Council staff 2]*

Finally, adult users were asked what makes a good playground and what should be done to make them more usable and playable. One adult user noted:

> *More accessible swings, roundabout, slides … A wheelchair swing would be good … A friendly hour would be good also where we would be able to come and [name of child] would not get stressed out and there would not be too many people on her back – like the autism friendly hours they do in (local shopping centres named) … You need time ring fenced – it's not fair. Also, if it was divided up and for younger children … [Mother of girl with physical impairment, aged 9]*

For this parent, specialised design solutions were desired for children with varied impairments. Such solutions included the provision of specialised equipment (for example, a wheelchair swing) as well as quiet hours whereby children that could potentially become overwhelmed in busy playspace settings could avail of the space during specific hours.

Discussion:

This study aimed to gain insights into diverse user's perspectives of accessing and participating in play in local parks and playgrounds, with a concurrent exploration of playground providers perspectives, in order to determine overall playability and universal design issues in community playspaces. For the adults in this study, the five playgrounds are valued places in their communities, as these places enhanced their communities and provided spaces for socialising and enjoyment in the general park amenities. Furthermore, children in this study reported viewing these playgrounds as potential places of fun. As noted in other research, these forms of outdoor social occupations, in natural environments, serve to enhance well-being and belonging (Korpela et al., 2002; Wells and Evans, 2003; Arneberger and Eder, 2012; Moore and Lynch, 2018b).

This study examined issues relating to play and inclusion in five playgrounds in one local council area, from an analysis of universal design factors, including play value, accessibility and usability. From this analysis, it was identified that successful design and provision of inclusive playgrounds is dependent on the inter-connection between play needs of diverse users, and playground provision. From diverse users' perspectives, these five playgrounds did not always provide playable, inclusive play opportunities. The children who used these spaces spoke of the components not providing enough risk-rich play such as more height,

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speed, or challenge overall, that would maximise fun experiences for children of different sizes and older children in particular. Furthermore, for children with different disabilities, the playgrounds had many inaccessible design features (such as pathways, ladders) that resulted in limited play opportunities for them. When playgrounds are not designed with inclusion in mind, children and families as a consequence are excluded. The dyads of parents and children with disabilities in particular spoke of being stressed, of feeling odd in playgrounds that were not designed for their needs. In particular, some parents of children with varied impairments requested specialised design solutions to facilitate their children's participation in playspaces. While such solutions may be dissimilar to the principle of inclusion, parents considered such solutions as relevant in terms of facilitating participation for children with varied impairments. The findings of this study confirm the findings from international studies (e.g. Olsen and Dieser, 2012; Prellwitz and Skar, 2007; Burke, 2015) that these built environments for play are frequently not designed to maximise playability and consequently do not support social inclusion.

Through the exploration of playground providers' perspectives, further insight was gained into why playgrounds are not designed to maximise inclusion. Although these providers were knowledgeable in horticulture, landscaping, engineering and park maintenance, and although they had a strong desire to provide inclusive playspaces, they had limited knowledge of play, disability and universal design and were unsure how to provide for inclusion. In particular, providers demonstrated a limited understanding of the principles of universal design when they highlighted costs associated with accessible design solutions for persons with varied impairments. However, designing for inclusion (i.e. designing for all) in comparison to specialised design (i.e. designing for some) and does not necessarily incur any additional cost or at least not a substantial cost. Moreover, according to these providers, playground guidelines typically focus on safety standards rather than providing guidance on good design for play. This lack of local knowledge and expertise limited the capacity of providers to establish a coherent evidence-informed approach to inclusive playground provision. This mirrors findings from studies in municipalities in Sweden and Australia (Prellwitz and Tamm, 1999; Sterman et al., 2018). Contributing to this is the role played by national government bodies, whose lack of awareness of universal design and play was a further limiting factor. As noted earlier, despite the promotion of universal design as a way to provide for inclusion, there are no national guidelines in Europe for applying a universal design approach to playground provision (Lynch et al., 2018). Consequently, it is difficult to establish good practice in playground provision if there are no formal standards or universal design guidelines for playgrounds (Lynch et al., 2018; Moore and Lynch, 2015).

Universal design establishes as a core principle an understanding from a user's perspective, of the interaction between the person and the environment: in other words, the occupation that is enacted in the environment. In this small-scale study, child and family users with diverse abilities were excluded from participating in play in the five playgrounds because of poor accessibility to the play **opportunities** (for example, no ramp or steps to the highest point, or play components that lacked challenge)**.** However, from a play occupation perspective, children seek challenge in play. Consistent with other studies (for example, Lynch et al., 2018) we argue that in order to maximise play value there needs to be challenge. Challenge can be in the form of play opportunities for climbing to greater heights or spinning with faster speeds, resulting in more risk and fun, as noted by Sandseter in her studies of risky play (Sandseter, 2009). Therefore, if risky play is a goal, it is neither possible nor desirable to make every piece of a playground fully accessible/usable given people's different ages, sizes, abilities and play needs. From a child's rights-based perspective, successful

design should include inaccessibility because of **challenge** (Lynch et al., 2019). However, general accessibility should be a fundamental concern in providing access to playgrounds and play components.

Despite the promotion of universal design as a method that delivers inclusivity, applying universal design to playgrounds is perplexing and somewhat ambiguous when we consider the need to provide for play value (Lynch et al., 2018). This is due to the challenge of translating the seven principles of universal design into designing for play (Connell et al., 1997). Indeed, it is acknowledged that some of these seven principles may not readily apply to playgrounds. For example, Casey (2017) reviewed principles three and six and notes that "the principles of low physical effort and simple and intuitive use may be deemed to confound the desire for play features requiring progressive levels of physical exertion or offering intrigue and surprise" (p. 371). There is a need to examine Universal design as it specifically applies to playgrounds consequently, and to consider how we can translate and tailor the principles of universal design more specifically to incorporate a focus on play as a central concern (see Table 3). While efforts have been made to do this from an Occupational Therapy and Occupational Science perspective (see for example, Lynch et al., 2018; Prellwitz and Lynch, 2018), there is a need for experts in play occupation and universal design to collaborate and integrate expertise to progress playspace design as a fundamental aspect of community participation and inclusion.

Table 3. Tailoring the 7 principles of Universal Design for Playspaces (Lynch et al., 2019)

From a rights-based perspective, reduced participation in outdoor play is an unmet need that should be important in therapy practice. The decline in outdoor free play is a significant threat to healthy childhood, and one that should be a significant concern to occupational therapists from an occupational justice perspective (Prellwitz and Skar, 2016). Yet the place of play in occupational therapy practice has been problematic in recent decades, with play being rarely the focus of goals or outcomes of intervention (for example Lynch et al., 2017; Moore and Lynch, 2018a). Instead, play is most commonly considered as a means to an end – a way of working on other skills such as motor coordination. From a participation-focused perspective, this is problematic as it means outcomes of occupational therapy rarely measure play participation. New models of service delivery are required that addresses community participation needs and one way to address this is to shift towards more universal or contextual approaches to service delivery (Hutton et al., 2016; Law et al., 2011). For playgrounds, this would require therapists to move outside the clinic to work with local authorities and schools, with a focus on advocacy and change at policy and community levels in order to influence and facilitate occupational participation and enhance health and wellbeing (Moore and Lynch, 2015). In this way, therapists can contribute to the occupational justice agenda of protecting and providing for the child's right to play as advocated by the UNCRC.

Limitations:

This study had many limitations that reflect the complexity of integrating multiple methods and perspectives. Due to the need to determine how the park-playgrounds were used, the evidence of non-users is not included. This would be a vital aspect for further research. Four of the five park-playgrounds selected were in low socioeconomic neighbourhoods. Further studies of more varied neighbourhoods would be important to compare and contrast play needs more comprehensively across one local council area. Walk-and-talk interviews were not recorded due to the dynamic nature of this form of data collection which often involved

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participant observation on playground components, such as slides and swings, and naturalistic discussion. This is noted as a limitation of the study, yet served to ensure participants were at ease during the interviews.

Recommendations:
This study contributes to the growing body of scholarship on the provision of inclusive community playspaces by contributing to emerging data in the Irish context (Lynch et al., 2019). In this small-scale study, children with disabilities continue to experience exclusion in community playspaces, despite a commitment to inclusion in local authorities. Recommendations were identified:

- The need to establish research that extends knowledge on Universal Design and as it relates to play, play value and participation in outdoor community playspaces.
- The need to extend research to families that do not access or use outdoor community playspaces to ascertain reasons for non-use.
- The need for new models of service delivery in Occupational Therapy to addresses community participation needs, with a focus on advocacy and change at policy and community levels to facilitate occupational participation.

Conclusion:
This study provides an important analysis of local park and playground provision in one local council area from the perspectives of children, adults, and providers. While these community areas were sites for social connection and were valued among the users and providers, there was a lack of play value for children of diverse age and ability. For many, playgrounds typically were not experienced as sites of challenge or fun. Furthermore, from a universal design perspective, many aspects of the playground design were neither accessible nor usable for diverse children and families. Overall, this study identifies that universal design is an emerging concept that is not well known among providers and has consequently not been operationalised in playground design and provision in these community contexts. Designing for play requires insight into play occupation, which informs designers how to incorporate play and challenge into the design of environments to promote a healthy and playful life. Occupational therapists are ideally positioned to collaborate with local authorities on universal design for enhancing children's play participation in community settings due to their skill set 'that naturally lends itself to making collaborative contributions to Universal Design' (Lenker and Perez, 2014: 13).

Key findings:

- Children with disabilities continue to experience exclusion in community playspaces, despite a commitment to inclusion in local authorities.
- The application of a universal design approach for play design is complex when we consider the need to provide accessible-inaccessible elements that support progressive levels of play challenge.
- There is a need to establish research that extends knowledge on universal design as it relates to play, play value and participation.

What the study has added:
This study identified areas of unmet need among users and play providers in a local community setting, and highlighted potential areas of involvement of Occupational Therapists for enabling play participation in community settings.

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Research Ethics:
Ethical approval was obtained in November 2017 from the Social Research Ethics Committee (SREC) of University College Cork (ref: 2017-112).

Consent:
All adult participants provided written informed consent for their participation in the study. In addition to parental consent, all child participants provided written or verbal assent for their participation in the study.

Declaration of Conflicting Interests:
The authors confirm that there are no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Contributorship:
Helen Lynch, Alice Moore, Claire Edwards and Linda Horgan researched literature, applied for ethical approval, and contributed to the development of the data. All authors contributed to the methodology of the project, and the data analysis plan. Helen Lynch, Alice Moore, Claire Edwards and Linda Horgan carried out the data collection, and all authors interpreted the data. Helen Lynch and Alice Moore wrote the first draft of the manuscript. All authors reviewed and edited the manuscript and approved the final version.

References:

For Peer Review

Anaby D, Hand C, Bradley L, et al. (2013) The effect of the environment on participation of children and youth with disabilities: a scoping review. *Disability and Rehabilitation*: 1-10.

Arneberger A and Eder R. (2012) The influence of green space on community attachment of urban and suburban residents. *Urban Forestry and Urban Greening* 11: 41-49.

Braun V and Clarke V. (2006) Using thematic analysis in psychology. *Qualitative Research in Psychology* 3: 77-101.

Brussoni M, Gibbons R, Gray C, et al. (2015) What is the relationship between risky outdoor play and health in children? A systematic review. *International Journal of Environmental Research and Public Health* 12: 6423-6454.

Burke J. (2015) Not just for the fun of it: children's constructions of disability and inclusive play through spatiality in a playspace. In: Corcoran T, White J and Whitburn B (eds) *Disability Studies: Educating for Inclusion.* Rotterdam, Netherlands: Sense Publishers, 3-21.

Casey T. (2017) Outdoor play and learning in the landscape of children's rights. In: Waller T, Arlemalm-Hagser E, Sandseter EBH, et al. (eds) *The SAGE handbook of Outdoor Play and Learning.* London: SAGE, 362-377.

Committee on the Rights of the Child. (2013) *General comment No.17 (2013) on the right of the child to rest, leisure, play, recreational activities, cultural life and the arts (art.31)*. World Health Organisation.

Connell B, Jones M, Mace R, et al. (1997) The principles of universal design (Version 2.0)

Creswell J. (2007) *Qualitative inquiry and research design: choosing among five approaches,* London: Sage Publications.

Gill T. (2014) The Benefits of Children's Engagement with Nature: A Systematic Literature Review. *Children, Youth and Environments* 24: 10-34.

Gray P. (2011) The decline of play and the rise of psychopathology in children and adolescents. *American Journal of Play* 3: 443-463.

Herrington S, Brunelle S and Brusonni M. (2017) Outdoor playspaces in canada: As if children matterred. In: Waller T, Arlemalm-Hagser E, Sandseter EBH, et al. (eds) *The SAGE Handbook of Outdoor PLay and Learning.* London: SAGE Publishing, 143-165.

Hutton E, Tuppeny S and Hasselbusch A. (2016) Making a case for universal and targeted children's occupational therapy in the United Kingdom. *British Journal of Occupational Therapy* 79: 450-453.

Iwarsson S and Stahl A. (2003) Accessibility, usability and universal design- positioning and definition of concepts describing person-environment relationships. *Disability and Rehabilitation* 25: 57-66.

Kilkelly U, Lynch H, O'Connell A, et al. (2016) Children and the outdoors: contact with the outdoors and natural heritage among children aged 6 to 12: current trends, benefits, barriers and research requirements. Kilkenny, Ireland: The Heritage Council.

Korpela K, Kytta M and Hartig T. (2002) Restorative experience, self-regulation, and children's play preferences. *Journal of Environmental Psychology* 22: 387-398.

Law M, Darrah J, Pollock N, et al. (2011) Focus on function: a cluster, randomized controlled trial comparing child-versus context-focused interventions for young children with cerebral palsy. *Developmental Medicine & Child Neurology* 53: 621-629.

Lenker J and Perez B. (2014) The role of occupational therapists in universal design research. *Occupational `Therapy Now* 16: 13-15.

Lynch H, Moore A, Edwards C, et al. (2019) Community Parks and Playgrounds: Intergenerational Participation through Universal Design. . Dublin: National Disability Authority.

For peer review

Lynch H, Moore A and Prellwitz M. (2018) From policy to play provision: Universal design and the challenges of inclusive play. *Children, Youth and Environment* 28: 12-34.

Lynch H, Prellwitz M, Schulze C, et al. (2017) The state of play in children's occupational therapy: A comparison between Ireland, Sweden and Switzerland. *British Journal of Occupational Therapy*: 1-9.

Moore A and Lynch H. (2015) Accessibility and usability of playground environments for children under 12: A scoping review. *Scandanavian Journal of Occupational Therapy* 22: 331-344.

Moore A and Lynch H. (2018a) Play and play occupation: A survey of paediatric occupational therapy practice in Ireland. *Irish Journal of Occupational Therapy* 46: 59-72.

Moore A and Lynch H. (2018b) Understanding a child's conceptualisation of well-being through an exploration of happiness: The centrality of play, people and place. *Journal of Occupational Science* 25: 124-241.

Olsen H and Dieser R. (2012) "I am hoping you can point me in the right directioon regarding playground accessibility": a case study of a community which lacked social policy toward playground accessibility. *World Leisure Journal* 54: 269-279.

Prellwitz M and Lynch H. (2018) Universal Design for social inclusion: Playgrounds for all. In: Twomey M and Carroll C (eds) *Seen and Heard: Exploring participation, engagement and voice for childrne with disabilities.* Oxford: Peter Lang, 267-296.

Prellwitz M and Skar L. (2007) Usability of playgrounds for children with different abilities. *Occupational Therapy International* 14: 144-155.

Prellwitz M and Skar L. (2016) Are playgrounds a case of occupational injustice? Experiences of parents of children with disabilities. *Children, Youth and Environment* 26: 28-42.

Prellwitz M and Tamm M. (1999) Attitudes of key persons to accessibility problems in playgrounds for children with restricted mobility: a study in a medium-sized municipality in Northern Sweden. *Scandinavian Journal of Occupational Therapy* 6: 166-173.

Salminen A, Harra T and Lautamo T. (2006) Conducting case study research in occupational therapy. Australian Occupational Therapy Journal (2006) 53, 3–8. *Australian Occupational Therapy Journal* 53: 3-8.

Sandseter EBH. (2009) Characteristics of risky play. *Journal of Adventure Education and Outdoor Learning* 9: 3-21.

Schreuer N, Sachs D and Rosenblum S. (2014) Participation in leisure activities: Differences between children with and without physical disabilities. *Research in Developmental Disabilities* 35: 223-233.

Sterman J, Naughton G, Bundy A, et al. (2018) Planning for outdoor play: Government and family decision-making. *Scandanavian Journal of Occupational Therapy* 25.

Wells NM and Evans GW. (2003) Nearby Nature: A Buffer of Life Stress Among Rural Children. *Environment and Behavior* 35: 311-330.

World Federation of Occupational Therapists. (2012) Position statement on Universal Design.

Table 1. Child and adult dyads who participated in the study

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	User	Relationship to child/ Age	Sex	Ability
Child-adult (2 children) dyad 1	Adult user	Mother	Female	No known impairment
	Child user	10 years	Male	No known impairment
	Child user	7 years	Female	No known impairment
Child-adult dyad 2	Adult user	Mother	Female	Adult with mobility impairment
	Child user	11 years	Male	Child with Down Syndrome
Child-adult dyad 3	Adult user	Mother	Female	Adult with back pain (Sciatica)
	Child user	9 years	Female	Child with mobility impairment
Child-adult dyad 4	Adult user	Grandmother	Female	An older person
	Child user	7 years	Female	No known impairment
Child-adult dyad 5	Adult user	Mother	Female	Adult with visual impairment
Child-adult dyad 6	Adult user	Mother	Female	No known impairment
	Child user	5 years	Female	Child with visual impairment
Child-adult (2 children) dyad 7	Adult user	Mother	Female	No known impairment
	Child user	5 years	Male	Child with Autism Spectrum Disorder
	Child user	3 years	Female	No known impairment
Child-adult dyad 8	Adult user	Grandmother	Female	An older person
	Child user	3 years	Female	No known impairment
Child-adult (2 children) dyad 9	Adult user	Father	Male	No known impairment
	Child user	9 years	Male	Child with Autism Spectrum Disorder
	Child user	8 years	Male	No known impairment
Child-adult dyad 10	Adult user	Father	Male	No known impairment
	Child user	6 years	Female	No known impairment

Table 2. Local council park and playground providers

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Title	Role related to parks and playgrounds
Parks and recreation maintenance	Overseeing maintenance, upkeep and repair of playground components
Playground design and development	Responsible for developing design plans for new playgrounds and retrofitting of old ones
Parks and playground community inclusion	Provision of community programmes for inclusion including park events, and organisation of festivals
Parks and recreation manager	Oversight of parks and recreation programmes for city council

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Table 3. Tailoring the 7 principles of Universal Design for Playspaces (Lynch et al., 2019)

7 Principles of UD	Principles for play value
Equitable use	There is a need to design for challenge and complexity that caters for people of different ages and abilities, resulting in equality of experience.
Flexibility in use	There is a need to design for variety in order to cater for people's individual play preferences and play styles.
Simple and intuitive use	Challenge is an integral part of children's play. As such, there is a need to design stimulating playspaces that offer opportunities for adventure and excitement.
Perceptible information	Discovery and imagination is an essential part of children's play. As such there is a need to design playspaces that encourage user's natural curiosity.
Tolerance for error	Risk is an integral part of children's play. As such, there is a need to design risk-rich playspaces that afford users the opportunity to participate in challenging and risky behaviour without being exposed to overly dangerous activities or risks.
Low physical effort	Physical effort is integral for children's active play. There is a need to design playspaces to provide for active play, while minimising unnecessary fatigue.
Size and space for approach and use	People of different ages, abilities and sizes participate in play. Thus there is a need to design playspaces that offer appropriate size and space to accommodate everyone and facilitate participation in the playspace.

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