Outdoor play of children with and without disabilities. Insights from the Covid-19 pandemic in Ireland and Italy

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Several factors might affect outdoor play (individual and family aspects, neighbourhood environment, policy and socio-cultural factors). The Covid-19 lockdowns became a barrier to outdoor play and had a greater impact on children with disabilities. This study describes the outdoor activities and play and the contextual factors that affected them in 4- to 13-year-old children with and without disabilities. 1,667 parents answered an online questionnaire with both open-ended and close-ended questions during the first lockdown in Ireland and Italy in 2020. Parents perceived their children as being unable to play outside as they could before Covid-19. The built environment impacted children's access to outdoor spaces. A content analysis was run on the parents' responses to open-ended questions describing children's outdoor activities and play, and the contextual factors affecting them. Results showed that the active role of adults in organizing routines, spaces and introducing changes, and the existing features of the outdoor built environment were crucial to support outdoor play. Comparing the contextual factors supporting outdoor play and activities of children with and without disabilities, the main difference concerned the type of role played by the adults. Some differences due to age, gender and nationality were also discussed.

Keywords: outdoor play, children with disabilities, gender differences, pandemic, contextual factors, content analysis

1. Introduction

In the last century, many researchers have proposed definitions and taxonomies of play (Besio 2017; Whitebread et al. 2017), starting with the seminal works by Piaget (1945) and Parten (1932). According to Piaget, play mainly consists of activities involving actions and exploration of the body or objects; play might include a symbolic or pretend dimension, and

may incorporate rules that are followed by the players. According to Parten, play entails a social dimension that ranges from solitary play to play that is shared with other people in associative or cooperative ways. According to both authors, play develops dramatically from birth. The COST Action TD1309 "LUDI–Play for Children with Disabilities" (2014-2018) extensively reviewed the literature on play definitions and types (Bulgarelli and Bianquin 2017) and chose to embrace Garvey's definition (1990), which includes important aspects of play: play consists of a variety of activities that are voluntary, intrinsically motivated, usually related to fun and pleasure.

The Convention on the Rights of the Child, acknowledges play and recreation as a right for every child (United Nations 1989). This is underlined by the United Nations Convention of the Rights of Persons with Disabilities (UNCRPD, 2006), in which Article 7 is devoted to the expression and the protection of the rights of children with disabilities. In addition, the International Play Association (IPA) promotes the right to play for every child, with and without disabilities (2014, 2015).

Similar to the UN's and IPA's documents, the International Classification of Functioning, Disability and Health, Children and Youth version (ICF-CY, World Health Organization, 2007) considers play as a core activity in which all children participate thanks to the combination of their body structures and functions, and contextual factors. The structures refer to their physical bodies and the functions are the way in which they operate. The contextual factors refer to the physical, social and attitudinal environment in which people live. They are both environmental, such as products and technologies, natural environment, relationships and social support, people's attitudes, services, systems and policies, etc., and personal, such as gender, age, educational level, coping styles, etc. The contextual factors may positively affect play (facilitators) or negatively affect it (barriers). Moreover, ICF, along with the UNCRPD, defines disability as the outcome of a complex

relationship between an individual's health condition and the contextual factors that prevent the person from fully participate in activities (2001), such as play.

Several factors have an impact on play. Brockman et al. (2011) explains that children are motivated to engage in play to prevent boredom, to socialize with peers, to benefit their heath and feel free from adults. Boxberger and Reimers' review (2019) showed that factors such as a child's age and gender, specific knowledge and skills, the perception of the environment, and play preferences affect play in a complex way.

Among the environmental factors that affect play experience, specific features of the built environment, such as access to back and front gardens and presence of communal green spaces are associated with more time spent in outdoor play (Lambert et al. 2019). The interaction between the environment and parents' attitudes is also presented in the literature: children are more likely to play in the street if parents perceive that it is safe, and are more likely to spend time outdoors if parents included bring the whole family going to the park together on a weekly basis. Therefore, social relationships that exist among parents and children in the neighbourhood facilitate outdoor play (Boxberger and Reimers 2019; Sterman et al. 2016; Valentine and MacKendrick 1997; Veitch, Salmon and Ball 2010). Gender differences in outdoor play are also well known, with parents restricting unsupervised outdoor play in girls (Boxberger and Reimers 2019) more than boys.

Among the contextual factors, the Covid-19 pandemic and related lockdowns became a significant barrier: they kept children indoors predominantly and kept them away from settings where peers meet to play, such as school and playgrounds (Faccioli et al. 2021; Kovacs et al. 2021; Michelini, Bortoletto and Porrovecchio 2021; Perez et al. 2021; Theis et al. 2021; Tulchin-Francis et al. 2021). We argue that the pandemic had a greater impact on outdoor play for children with disabilities (CwithD), who often experience more physical and

social barriers to play than children without disabilities (CwithoutD) (for a review, see Barron et al. 2017).

Thus, the current study first aims to describe the features of outdoor activities and play of children, and the contextual factors impacting on them during the first Covid-19 lockdown in 2020 in Ireland and Italy. Secondly, the study aims to analyse the differences in children's outdoor activities and play, and the contextual factors impacting them, due to disability, gender, country, and age group.

2. Study design

2.1. Hypotheses

The current study is descriptive. With respect to the first objective, our hypothesis aimed to discover the main contextual factors associated with outdoor activities and play, such as features of the outdoors, the active role of parents in promoting play, and the impact of Covid-19 restrictions on children's play. In relation to the second objective, we expected differences in outdoor activities and play due to disability, as the Covid-19 pandemic could have been a further barrier to outdoor activities and play especially for CwithD , and due to age and gender, as reported in the literature.

To accomplish the first objective of the study, a content analysis was run on textual materials collected through a questionnaire. To accomplish the second objective, non-parametrics analyses were run on the categories obtained through the content analysis to compare different groups of participants.

2.2. Tools, Procedures and Data Analysis

Data were collected online through two questionnaires titled "Impact of Coronavirus Restrictions on Children and Young People's Ability to Maintain their Play Worlds and Friendship Groups", which had a child and adult version. The questionnaire was developed in English and translated into Italian by CB, DB, and M-JE. The current study only focuses on

the answers that parents gave in the adult version of the questionnaire. It included 36 open and close ended questions. The inclusion criteria were adult participants who takes care of a child aged 4 to 14 years, and living in Ireland or Italy. Ethics Committees approved the research in early May 2020 from Universities in both countries. The questionnaire was distributed online through social networks, educational associations, and personal contacts. Data collection took place from May 4th to June 6th 2020 in Ireland, and from May 25th to June 16th 2020 in Italy.

The current paper only reports the analyses from certain questions asked to the adult respondents, as results from the questionnaire regarding indoor play were published in (Barron, Emmett, Patte, Higham and Bulgarelli 2021). To describe the features of outdoor activities and play, we reported the parents' answers to the close-ended questions, "Is your child able to play outside as they did pre Covid-19?" and "Is your child concerned about their inability to meet with their friends outside their home face to face?"; using a Likert scale, responses ranged from 1 'not at all' to 5 'completely'. To compare these answers by age group, gender, disability, presence of outdoor space in the home and country, non-parametric analyses for independent samples (Mann-Whitney test or Kruskall-Wallis test) were performed, as the groups differed in size.

To describe the features of outdoor activities, play and the contextual factors affecting them, we analysed the parents' answers to the open-ended question 'Tell us about the best idea you had to ensure your child could play outside and what you feel made it so successful', which allowed for a text of maximum 20,000 characters. To explore differences by age group, gender, disability, and country, we ran a χ^2 analysis on the frequencies of each category and sub-category.

2.3. Content Analysis

To analyse the open-ended answers to the question 'Tell us about the best idea you had to ensure your child could play outside and what you feel made it so successful', DB and NB performed a qualitative content analysis, "a research method for the subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns" (Hsieh & Shannon, 2005, p. 1278). The researchers worked collaboratively, advocating for the value of dialogue and reflexivity to improve the richness of the analysis and to reduce contain bias through discussion. The interpretations were continually challenged for alternative explanations. The researchers followed the methodological approach by Elo & Kyngas (2008), that includes three phases: preparation, organizing and reporting. During the preparation phase, they read a total of 1151 answers to the open-ended question to garner a general understanding of the content; each answer was the unit of analysis. After making sense of the data, analysis was conducted as follows. For the organizing phase, the researchers used a deductive approach according to the ICF model: they aimed to highlight the environmental factors that supported outdoor activities, thus the extraction matrix was organized into two main categories–activity features, and contextual factors–, each of them including generic categories (level 1). To better describe the contents of the main category, 'activity features', its generic categories (level 1) were further coded into subordinate categories (level 2), sub-categories (level 3), and micro-categories (level 4). An inductive approach was used to identify the sub-categories within each generic category: this unconstrained matrix was used as a coding sheet. The abstraction process is presented in Table 1, which also includes the category definitions agreed upon by the two researchers, where the meaning is not obvious.

[Table 1 near here]

2.4. Participants

Participants lived in Ireland and in Italy; a total of 1,667 adults took part in the study. They responded about their children's (4–13 Years) outdoor activities (average age: M = 7.81, *SD* = 2.70); for adult respondents' and their children's characteristics see Table 2 and Table 3 respectively.

[Table 2 near here]

Parents were asked "Does your child receive support for any of the following: physical disabilities, intellectual difficulties, sensory disabilities, and emotional/behavioural difficulties (including Autism Spectrum Disorder)". No definitions were given to the parents. Children who needed such supports made up 8.2% of all participants (N = 137). Nine children received support for physical disabilities, 18 for intellectual difficulties, 43 for emotional/behavioural difficulties, and 10 for sensory disabilities; 32 received support for two disabilities/difficulties, 18 for three, seven for all four disabilities/difficulties.

[Table 3 near here]

To allow comparisons by age, we divided the children into three age groups: AgeGroup1 (N = 637, of which 43 with disabilities; age range 4-6 years, *M* = 5.05 years, *SD* = .820), AgeGroup2 (N = 696, 63 with disabilities; age range 7-10 years, *M* = 8.41 years, *SD* = 1.092) and AgeGroup3 (N = 334, 31 with disabilities; age range 11-13, *M* = 11.96 years, *SD* = .799).

3. Results

The Irish and Italian groups of children did not differ by age (Irish: *M* = 7.90, *SD* = 2.70; Italian: *M* = 7.71, *SD* = 2.76; $t(1665) = 1.29$, $p = .199$), gender ($\chi^2 = 2.76$, $p = .103$), or disability ($\chi^2 = 2.69$, $p = .104$). More Irish than Italian children lived in homes with outdoor spaces (respectively 98% and 78%; $\chi^2 = 221.03$, $p < .001$). The group of CwithoutD and the group of CwithD differed by average age, the latter being slightly older (CwithoutD: *M* = 7.80, *SD* = 2.71; CwithD: *M* = 8.31, *SD* = 2.77; Mann-Whitney's *U* = 93647.00, *p* = .038),

and gender, as there were more boys in the CwithD group (62.0%) than in the CwithoutD (47.3%; $\chi^2 = 10.91$, $p = .001$).

3.1. Outdoor activities and play during Covid-19 first lockdown

Parents perceived their children as being unable to play outside as before lockdown (M = 2.84, SD = 1.39). Children in houses without an outdoor space were impacted more than children who had direct access to the outdoors ($p < .001$); Italian parents perceived their children as having more difficulty playing outside than Irish parents did ($p < .001$). No differences emerged based on age group, gender or disability (see Table 4). The concern about the inability to meet friends face to face outside was higher for 4-6-year-olds compared to 7-10-year-olds and 11-13-year-olds ($p = .043$), for girls compared to boys ($p < .001$), and for Irish children compared to Italian children ($p < .001$). No differences emerged based on disability or presence of outdoor space in the house (see Table 4).

[Table 4 near there]

3.2. Description of the Outdoor Activity and Play Features and Contextual Factors Supporting them

A subsample of 1,131 parents answered the open-ended question, “Tell us about the best idea you had to ensure your child could play outside and what you feel made it so successful”; of which 87 out of 1131 had children with at least one difficulty or disability. The answers to the question were coded through the categories ‘Activity Features’ and ‘Contextual factors’.

Table 5 reports the results related to the description of the activities, and examples of responses. These results were built from a deductive approach within the content analysis, as we were interested in four dimensions of the activity: the type of activity, the context in which it took place, the people, and the objects involved in it. Summarizing the information reported in Table 5, parents mostly described play activities and sports that children did in the outdoor spaces of the house, together with their families, using off-the-shelf objects and toys. The

most cited spaces were those strictly related to the house, as lockdown restrictions were present both in Ireland and Italy: back and front gardens, balconies and streets. Few families went to the parks and natural environments such as beaches, rivers or woods close to home: this was not surprising given the 5-km restrictions in place in both countries at the time of the survey. Children mainly interacted with parents and siblings. Play was the most cited activity, followed by sport. Of the 82% of answers which mentioned play activities, parents specified the type of play that the children took part in, while 18% of the responses referred to "play" generally. With respect to the social dimension of play (N = 275), in 93% of the cases, parents reported that their child was interacting with another person (parents, siblings or friends), while in only 7% of the cases the child was playing alone. While describing the objects involved in play activities, parents mostly referred to off-the-shelf toys, and to natural objects (see Table 5 for examples).

[Table 5 near here]

Table 6 reports the main reasons which helped children successfully play outdoors, according to parents. These results were built from an inductive procedure and parents themselves mostly referred to reasons that can be defined as "contextual factors" from the ICF perspective (see the generic category column in Table 6). Parents reported that the active role they had was crucial: parents supported play by organizing the environment, the objects, or the routines, and got the children involved in the activity by supervising it or by participating as a play partner. A few times parents had to struggle or strongly encourage the child to go outside. Introducing changes and features of the outdoors, and the way in which the home environment was already organized were the other two most cited contextual factors contributing to outdoor activities and play.

[Table 6 near here]

3.3. Difference in outdoor activity and play features by disability, gender, country, and age group

In general, the type of activities, partners, objects, and outdoor contexts described by parents did not differ depending on disability, gender, country, and age group (all $p > .05$, χ^2 test). Some exceptions were found. With regards to disability, 'type of activity–gardening', 'context–playground', and 'context–farm' were more often mentioned for CwithD than CwithoutD (gardening: CwithoutD 5.2%, CwithD 10.3%, $\chi^2 = 4.09$, $p = .043$; playground: CwithoutD 0.1%, CwithD 1.1%, $\chi^2 = 5.05$, $p = .025$; farm: CwithoutD 0.0%, CwithD 2.3%, $\chi^2 = 24.04$, $p < .001$). Please note that data about playgrounds and farms only referred to 4 children out of 1131.

With respect to gender, 'type of activity–arts & craft and 'partners–pets' were mentioned for girls more than boys (arts & craft: girls 7.1%, boys 1.8%, $\chi^2 = 17.87$ $p < .001$; pets: girls 3.7%, boys 1.7%, $\chi^2 = 4.52$, $p = .034$), while 'context–wood/river' and 'object–recycled' were mentioned for boys more than girls (wood/river: girls 0.7%, boys 1.7%, $\chi^2 = 5.67$, $p = .017$; recycled: girls 0.5%, boys 2.4%, $\chi^2 = 6.30$, $p = .012$).

With respect to country, differences likely emerged due to socio-cultural aspects and/or a higher rate of outdoor spaces in the homes of Irish participants, as reported above. Italian parents cited 'type of activity–cooking' more often than Irish parents (Italian 1.2%, Irish 0.1%, $\chi^2 = 6.82$, $p = .009$), as well as 'context–garden/yard' (Italian 30.9%, Irish 17.9%, $\chi^2 = 19.53$, $p < .001$), and 'context–balcony' (Italian 7.4%, Irish 0.3%, $\chi^2 = 52.34$, $p < .001$). Irish parents cited 'type of activity–art & craft' more often than Italian parents (Irish 5.5%, Italian 1.2%, $\chi^2 = 7.98$, $p = .005$), as well as 'social play–with others' (Irish 25.0%, Italian 13.6%, $\chi^2 = 14.25$, $p < .001$) 'partners–parents' (Irish 21.6%, Italian 15.2%, $\chi^2 = 4.83$ $p = .028$) and 'partners–friends' (Irish 8.0%, Italian 4.1%, $\chi^2 = 4.32$, $p = .038$).

With respect to age group differences, parents of children from 11 to 13 years (AgeGroup3) referred more often to 'type of activity–sporting' (AgeGroup1 24.32%, AgeGroup2 33.7%, AgeGroup3 44.9%, $\chi^2 = 28.36$, $p < .001$), 'social play–with others' (AgeGroup1 18.7%, AgeGroup2 23.8%, AgeGroup3 27.3%, $p = .032$), and 'partners–friends' more often that parents of the other age groups (AgeGroup1 4.0%, AgeGroup2 7.5%, AgeGroup3 12.5%, $\chi^2 = 15.64$, $p = .001$). Parents of children from 4 to 6 years (AgeGroup1) cited 'context–garden/yard' (AgeGroup1 22.9%, AgeGroup2 21.3%, AgeGroup3 14.8%, $\chi^2 = 5.97$, $p = .051$), 'object–hand-made' (AgeGroup1 3.3%, AgeGroup2 1.4%, AgeGroup3 0.5%, $\chi^2 = 7.32$, $p = .026$), 'object–natural' (AgeGroup1 10.9, AgeGroup2 8.1%, AgeGroup3 2.3%, $\chi^2 = 14.17$, $p < .001$), and 'object–recycled' more often than parents of the other age groups (AgeGroup1 2.6, AgeGroup2 0.4%, AgeGroup3 0.9%, $\chi^2 = 8.69$, $p = .013$).

3.4. Differences in the contextual factors by disability, gender, country, and age group

In general, the majority of the contextual factors did not differ by disability, gender, country, or age group (all $p > .05$, χ^2 test). Some exceptions were found. In regards to disability, parents of CwD mentioned the importance of 'family dimension' (CwithD 21.8%, CwithoutD 11.7%, $\chi^2 = 7.59$, $p = .006$) and 'features of the outdoor' more than parents of CwithoutD (CwithD 29.9%, CwithoutD 21.0%, $\chi^2 = 3.76$, $p = .053$), while parents of CwithoutD mentioned that they often played the 'supervisor' role in the activity (CwithD 1.1%, CwithoutD 6.7%, $\chi^2 = 4.21$, $p = .040$).

More differences emerged when the two countries were compared. Irish parents mentioned their active role more frequently than Italian parents (Irish 67.9%, Italian 42.4%, $\chi^2 = 52.97$, $p < .001$), specifically: 'adult buys' (Irish 16.9%, Italian 2.9%, $\chi^2 = 31.33$, $p < .001$), 'adult organises space' (Irish 16.1%, Italian 5.8%, $\chi^2 = 17.07$, $p < .001$), and 'adult participates' (Irish 21.2%, Italian 15.2%, $\chi^2 = 4.23$, $p = .040$). Also, Irish parents mentioned more frequently the importance of 'introducing changes' (Irish 29.3%, Italian 15.6%, $\chi^2 =$

18.30, $p < .001$), of 'positive emotions' (Irish 8.7%, Italian 3.3%, $\chi^2 = 7.94$, $p = .005$), 'good weather' (irish 4.4%, Ialian 1.6%, $\chi^2 = 3.93$, $p = .047$), and 'community active role', in comparison to Italian parents (Irish 2.1%, Italian 0.0%, $\chi^2 = 5.29$, $p = .021$).

With respect to age group differences, parents of children from 11 to 13 years (AgeGroup3) referred more to the 'community active role' (AgeGroup1 0.7%, AgeGroup2 1.4%, AgeGroup3 4.2%, $\chi^2 = 10.70$, $p = .005$), 'adult organizes routines' (AgeGroup1 13.5%, AgeGroup2 14.6, AgeGroup3 23.1%, $\chi^2 =$, $p = .004$), 'adult struggles' (AgeGroup1 1.7%, AgeGroup2 1.0%, AgeGroup3 3.7%, $p = .043$) and 'maintaining Covid rules' than parents of children in other age groups (AgeGroup1 8.5%, AgeGroup2 11.8%, AgeGroup3 15.7%, $p = .022$). Parents of AgeGroup1 cited 'adult organises space' more often (AgeGroup1 20.1%, AgeGroup2 10.6%, AgeGroup3 9.3%, $p < .001$).

4. Discussion

Irish and Italian parents reported a decrease in children's outdoor activities and play during the Covid-19 lockdowns, similar to the decrease that was observed across Europe (Kovacs et al. 2021), the UK (Theis et al. 2021), Canada (de Lannoy et al. 2020) and the USA (Jackson et al. 2021). According to their parents, children in all of the three age groups and both genders experienced a decrease in outdoor activities and play, as it was found in line with other research from the in USA (Tulchin-Francis et al. 2021). To further contribute to the literature, our study showed the crucial role of contextual factors for supporting children's outdoor activities and play and, specifically, the active role that adults took in organizing routines, spaces and objects, introducing changes, and getting the whole family involved in play activities. In addition, the existing features of the built environment, access to an outdoor space and the way it was structured supported play activities outside, in line with observations of school-aged children in Canada and the USA (Mitra et al. 2020; Perez et al 2021). This

process was mainly the same, independent of the age, gender, disability, or nationality of the children.

Unexpectedly, only a few differences emerged between CwithD and CwithoutD, that mainly relate to contextual factors. The parents of CwithD reported the importance of the family (doing things together) more often and the existing features of the outdoors to support outdoor play. Compared to parents of CwithD, parents of CwithoutD mentioned having to play the role of 'supervisors' of the activity more often, and let their child play autonomously more often than parents of CwD (see also Barron et al. 2017).

Differences in outdoor activities and play also emerged depending on the children's age, as expected from the literature (Besio, 2017; Parten, 1932; Piaget, 1945; Whitebread et al. 2017). Children aged 4-6 years made more use of gardens/yards, and of hand-made, natural or recycled objects compared to older children. The concern about the inability to meet friends outside was higher for 4- to 6-year-olds: young children could not replace the face to face meetings with social media, which could explain their concern. Regarding the contextual factors, the parents of 4- to 6-year-olds cited that they organized the play space for their children more often. Children aged 11-13 years, according to the parents that participated in our study, had more opportunities to play together with their friends. Of the outdoor activities, sporting was cited more often for the older group of children. For them, the active role of the community was cited more often as a contextual factor determining the success of playing outdoors, suggesting that , as youngsters grow, the role of the wider social environment becomes more important. In addition, parents of 11-13-year-olds reported struggling at times to get their children to play outside. Interestingly, parents of older children also acknowledged that factors which allowed children to play outdoors, such as cycling, playing hide-and-seek from distance, etc., happened to be in line with the Covid-19 restrictions in place at the time of the survey.

With respect to gender, a few differences were observed. The concern about the inability to meet friends face to face outside was higher for girls than boys. Activities such as 'arts & craft' and pets as play partners were more often mentioned for girls than for boys, similar to findings about indoor play reported in Barron, Emmett, Patte, Higham and Bulgarelli (2021); the context 'wood/river' and recycled objects were mentioned more often for boys than girls. Interestingly, no differences by gender emerges in the contextual factors that allowed children to play outdoors.

With regards to differences between Ireland and Italy, consistent with the result that Irish dwellings frequently included more outdoor spaces than Italian dwellings (in Italy more people live in apartments), Italian parents perceived their children to be more penalized for outdoor play than Irish parents did, yet the children's concern about their inability to meet friends face to face outside was higher as noted by Irish parents compared to Italian parents. Italian parents cited the use of the garden/yard and of the balcony more often, as the latter is the only possible outdoor space in apartments, which are the most common dwellings in Italian contexts. Regarding the contextual factors supporting play, Irish parents mentioned their active role more frequently (buying objects, organising spaces, participating in the activity) and the importance of introducing changes to their children's routine to support outdoor play. Italian parents never mentioned the 'community active role' as a contextual factor contributing to outdoor activities; for future research, this result should be analysed according to the nature of the social networks and relationship opportunities that were present in the areas where the participants lived.

One limitation of the study is that it lacked a certified diagnosis of the children's disabilities. The recruitment of participants occurred online, as this was the only way to collect data during the first Covid-19 lockdown. Thus, we decided to trust parents to report the correct information and we used a language that would be positively perceived by parents.

Even so, misunderstandings while reporting the children's disability could have occurred. Moreover, our study described outdoor activities, play and differences due to age, gender, disability, and nationality, but it was not possible to explain the reasons for these differences.

The contribution of the current study consists in showing the clear role of contextual factors that support play for all children, which adults should consider at family, social and policy levels. In fact, in the light of the ICF biopsychosocial model, children's outdoor activities and play during the Covid-19 lockdowns appeared to be mainly influenced by environmental factors rather than by body structures and functions in both Ireland and Italy, and regardless of age, gender, and disability. This result highlights the importance of designing contexts to support the participation of children in all activities of daily life.

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Declaration of interest statement

The authors report there are no competing interests to declare.

375 Table 1. Definition of the two main categories and related categories used in the content

376 analysis

1. Activity features (Best idea): according to the ICF, it is the execution of task or action
   - Outdoor context: the place where the activity happened
     - Beach or sea
     - Playground
     - Wood or river
     - Garden (back and front), yard
     - Park; Balcony or terrace
     - Street or square
     - Farm
   - Partner: the person/s involved in the activity with the child
     - Parents
     - Siblings
     - Friends
     - Relatives
     - Grandparents
     - Babysitter
     - Pets
   - Type of activity: the kind of task or action executed by the child
     - Art & crafts
     - Gardening
     - Chores and DIY works
     - Cooking
     - Sporting: motor activity referring to classical sports (football, cycling, basket)
     - Play (Garvey, 1990)
       - Social play
         - Alone
         - with others
       - Type of play
         - Specified
         - not specified
   - Object of the activity: the category of physical items involved in the action
     - Off-the-shelf toys or objects
     - Adapted toys or objects
     - Handmade toys or objects
     - Natural objects
     - Recycled objects
     - Not specified

2. Contextual factors (Reasons for success): the cause that facilitated the child to stay outdoor
   - Covid rules: how parents stuck to the rules of maintaining social distancing
     - Breaking rules
     - Maintaining rules
   - Features of the outdoor: the characteristics of the external environment that have facilitated activities
   - Adult's active role: the type of action the adult performed to sustain the child
     - Adult buys objects
     - Adult organizes spaces and objects
     - Adult organizes routine and activities
     - Adult supervises or allows behaviours
     - Adult participates in the activity
     - Adult struggles to keep the child outdoor
     - Adult forces the child outdoor
   - Community active role: the action or activity proposed by the community (school or sports team, etc.) addressed to the child

- Introducing changes: the declared presence of new elements (toys, rules, use of a space)
- Positive emotions: concerns mentioning favourable feelings or moods experienced by the child
- Family dimensions: the reference to the family as an aspect of positivity and the importance of time spent together
- Good weather': refers to the fact that they were able to take advantage of the nice climate to carry out their activities
- Child's independence: concerns the fact that the child carried out the activity independently, underlining the positivity of this condition
- Exploring nature: refers to spending time immersed in nature, recognising the importance and value of such moments

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379 Table 2. Adult respondents' age and relationship towards the child by country

		N	Percent-age	Age (N and percentage)							
				18-24	*25-30*	*31-40*	*41-50*	*51-60*	*61-75*	*>76*	*Not declared*
Ireland	*Parent*	1106	97.3	6 (.5)	37 (3.3)	403 (35.4)	460 (40.5)	65 (5.7)	4 (.4)	2 (.2)	160 (14.1)
	Step-parent	3	.3								
	Grandparent	11	1.0								
	Other	17	1.5								
	Total	1137	100.0								
Italy	*Parent*	521	98.5	5 (.9)	22 (4.2)	203 (38.3)	241 (45.5)	25 (4.7)	1 (.2)	0	33 (6.2)
	Step-parent	2	.4								
	Grandparent	1	.2								
	Other	6	.9								
	Total	530	100.0								

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382 Table 3. Number of children by disability, nationality, and gender

	Children without disabilities			**Children with disabilities**		
Age	*Total*	*Irish/Italian*	*Boys/Girls*	*Total*	*Irish/Italian*	*Boys/Girls*
4y	187	119/68	88/99	12	9/3	7/5
5y	195	131/64	114/81	13	8/5	8/5
6y	212	141/71	95/117	18	13/5	12/6
7y	167	117/50	63/104	15	13/2	11/4
8y	178	112/66	88/90	14	12/2	9/5
9y	153	103/50	66/87	21	16/5	13/8
10y	135	99/36	61/74	13	9/4	7/6
11y	108	84/24	57/51	5	5/0	3/2
12y	109	75/34	51/58	12	7/5	7/5
13y	86	54/32	41/45	14	10/4	8/6
Tot	1530	1035/495	724/806	137	102/35	85/52

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Table 4. Average scores (SD)^ of the answers to the four questions regarding concern about play and sports during the lockdown and significant differences by age group, gender, disabilities, outdoor space, and country

		Ability to play outside as before	Concern about inability to meet friends outside face to face
Whole sample		2.84 (1.39)	3.70 (1.28)
Country	*Ireland*	2.97 (1.41)***	3.85 (1.25)***
	Italy	2.57 (1.39)***	3.39 (1.30)***
Age group	*Pre-schoolers*	2.87 (1.36)	3.61 (1.29)*
	School-aged children	2.82 (1.42)	3.79 (1.26)*
	Preadolescents	2.82 (1.39)	3.69 (1.31)*
Gender	*Girls*	2.85 (1.40)	3.83 (1.25)***
	Boys	2.83 (1.38)	3.57 (1.30)***
Disabilities	*Yes*	2.84 (1.43)	3.61 (1.47)
	No	2.84 (1.39)	3.71 (1.27)
Outdoor space in the house	*Yes*	2.95 (1.37)***	3.67 (1.30)
	No	1.67 (.98)***	3.70 (1.24)

^Range of the scores: 1–5 (1 = not at all, 5 = completely)
***$p < .001$, ** $p < .01$, *$p < .05$ according to Mann-Whitney test or Kruskall-Wallis test

391 Table 5. Categories related to the main category "Activity Features" (N) and examples*

Examples of response	**Micro-category Level 4**	**Sub-category Level 3**	**Category Level 2**	**Generic category Level 1**
			Back or front garden, yard (234)	*Outdoor context (340)*
			Park (40)	
			Street or square (23)	
			Balcony or terrace (21)	
			Beach or sea (17)	
			Wood or river (17)	
			Playground (2)	
			Farm (2)	
			Parent/s (229)	*Partners (342)*
			Sibling/s (138)	
			Friend/s (82)	
			Pet/s (31)	
			Relative/s (cousins in 6 cases out of 8)	
			Grandparent/s (4)	
			Babysitter/s (3)	
"He can play on his own" (ER0531)	Alone (19)	Social Play (275)	Play (750)	*Type of activity (861)*
"Put a basket in the yard and play with her" (IT419)	With others (256)			
"We bought him a paddling pool and he plays in that. He also incorporates it into a soccer game with his brother" (ER0682)	Specified (613)	Type of play (750)		
"Playing together outdoors" (IT452)	Not specified (137)			
"We've played tennis in back garden, we go for cycles" (ER0704)			Sporting (367)	
"Having fun doing the vegetable garden" (IT222)			Gardening (63)	
"Chalk painting the footpaths with games like hopscotch" (ER0533)			Art & crafts (52)	
"Helping his dad do jobs outside" (ER0304)			Chores and DIY works (27)	
"More baking with him" (ER0866)			Cooking (4)	
"Bought hula hoops/ badminton set/ kite" (ER0698)			Off-the-shelf (512)	*Object of the activity (606)*
"[…] looking for tadpoles, mushrooms, wild boars, flowers" (IT241)			Natural (91)	
"Getting stuff for the back garden to play with" (ER0615)			Not specified (26)	
"We built a treehouse together" (ER1077)			Handmade (22)	

"Invented games to do in the garden: basketball, athletics, obstacle courses with improvised material" (IT088)			Recycled (15)	

*The N of the generic category may not be the sum of the N of its categories, because in the same answer more than one category could have been mentioned.

Table 6. Categories related to the main category "Contextual factors" (N) and examples*

Examples of response	Category Level 2	Generic category Level 1
"I bought a few toys for them to use outside" (ER0331)	Adult buys objects (157)	Adult active role (726)
"Built sand boxes and a shed so he could go out even when raining" (ER0628)	Adult organizes spaces and objects (157)	
"For the whole period of the emergency we moved to the second home in the mountains" (IT099)	Adult organizes routine and activities (179)	
"Letting her take indoor toys outdoors" (ER0718) or "Monitoring play at beginning with other parents and helping to come up with games or activities which can be played from safer distance" (ER0209)	Adult supervises or allows behaviours (71)	
"S/he could play with us or with his grandparents to make the restaurant, the ice cream shop" (IT419)	Adult participates in the activity (225)	
"I have struggled and still struggle to convince him to leave the house" (IT060)	Adult struggles/ forces to keep the child outdoor (20)	
"Teach him to ride a bicycle bigger than the previous one to go for walks together on the cycle path" (IT358)		Introducing changes (298)
"Lucky enough to have a garden to play safely in" (ER0125)		Features of the outdoor (246)
"Having friends over and relaxing about social distancing" (ER0073)	Breaking rules (13)	Covid Rules (142)
"They played social distancing hide and seek" (ER1200)	Maintaining rules (129)	
"Bought better bikes, daily cycle with children an enjoyable family time" (ER0160)		Family dimensions (141)
"It was funny and we had a lot of laughs" (IT449)		Positive emotions (85)
"The weather was fab" (ER0186)		Good weather (43)
"Added a basketball hoop to the trampoline, to encourage solo play" (ER0815)		Child's independence (35)
"We invented small 'missions' to do when going out (find a certain flower, a certain number of stones…)" (IT488)		Exploring nature (29)
"He practices daily football challenges set by our local GAA CLUB & his soccer team" (ER0874)		Community active role (19)

* The N of the generic category may not be the sum of the N of its categories, because in the same answer more than one category could have been mentioned.

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