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# On your bike: Outdoor play in Irish 5 year olds<sup>1</sup>

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## Introduction

Under the United Nations Convention on the Rights of the Child (UNCRC), children have the right to play (UNCRC, 1989 Article 31) and the importance of outdoor play has been well-documented (Bento and Dias, 2017). From a physical and psychological perspective, playful opportunities are essential for healthy growth, development and overall well-being (Pellegrini and Smith, 1998). Physical play supports the development of muscle tone, gross and fine motor skills and is an important factor in healthy weight maintenance, as play is exercise. Play is also key for aspects of cognitive, socio-emotional development and well-being such as self-regulation, resilience, nurturing friendships and encouraging creativity, problem-solving and communication (Whitebread, 2010; Zigler, Singer and Bishop-Joseph, 2006). Additionally, play has an impact for children in terms of adapting and co-constructing their environments, identity and operating across adaptive systems (Lester and Russell, 2008). If children are viewed as active agents (Prout, 2005), play gives independence, control, opportunities to challenge and take risks (Tovey, 2011).

Playing outdoors provides opportunities to move more freely, and to explore and engage with natural materials and resources (Fjortoft, 2001). In terms of physical health and well-being, playing outdoors encourages physical development as children are significantly more active outdoors than indoors (Engelen et al., 2015). Fundamental movement skills (such as walking, jumping, climbing, throwing and catching) play an extensive role in promoting gross motor development, coordination and physical dexterity (National Council for Curriculum and Assessment (NCCA), 2014). Opportunities to develop skills are often linked to increased confidence and proficiency (Piek, Hands and Licari, 2012) and opportunity, variety and practice are key to mastery (NCCA, 2014). Increased exposure to the outdoors may also have a positive impact on the developing immune system (Okada, 2010).

In addition to supporting physical development, outdoor play is also important for socio-emotional and cognitive development. There are many different types of play activities children can engage in outdoors and activities vary in how much social interaction and cooperation is

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required with other children (e.g., reciprocal role-taking, detection of play signals, turn taking) (e.g., Pellegrini, 1987) and in how cognitively demanding they are (e.g., remembering rules, keeping score, knowing the next step to be completed). For example, Veiga et al. (2017) found a positive association between physical exercise play and social competence (measured during recess in the preschool playground) in preschoolers. However, one recent study examining play in three to five year olds found that children engaged in considerably more technology play (e.g., TV, tablet) and non-technology play (e.g., toys, puzzles, reading) than outdoor play (playground, bike) (Slutsky and DeShetler, 2017).

The neighbourhood environment may also impact on levels of outdoor play. For example, one study found that the neighbourhood environment was associated with children's sedentary behaviour outside school hours, with increased parental satisfaction with nearby public outside spaces negatively associated with time spent viewing television or using electronic devices (Veitch, Timperio, Crawford, Abbott, Giles-Corti and Salmon, 2011). Other research investigating the effect of neighbourhood characteristics on outdoor play in the United States has demonstrated that higher maternal perceptions of neighbourhood collective efficacy (e.g., trust and cohesion) were associated with more hours of outdoor play and more trips to a park or playground (Tolbert Kimbro, Brooks-Gunn and McLanahan, 2011). Therefore, an insight into the extent and type of outdoor play activities of young Irish children, and potential barriers to outdoor play is merited.

Growing Up in Ireland (GUI), a nationally representative longitudinal study of a sample of Irish children and their families, provides a wealth of data on many aspects of their lives (see <http://www.esri.ie/growing-up-in-ireland/> for more information). The aim of the current research is to draw on the GUI data to provide a snapshot of outdoor play in Irish five year olds, as reported by their parents. The sample of children and families in the GUI study was selected and weighted to be representative of the population on the basis of information from national census data. Given the breadth of topics covered in the GUI study, the questions asked relating to outdoor play are limited. However, the responses from this sample have a high degree of generalizability to the population, which makes these findings informative, particularly as they have not been reported elsewhere.

In addition to reporting a snapshot of outdoor play in young Irish children, we also report figures relating to the neighbourhood environment to examine if this affects outdoor play levels by either encouraging more outdoor play or acting as a barrier to it. An understanding of the extent and types of outdoor play in Irish children, and barriers to it, is important for many reasons such as supporting healthy growth, development and overall well-being in children (Pellegrini and Smith, 1998), informing national and local policies and providing an evidence base for resource related decisions.

## Methodology and Data

Data were collected on a sample of 9001 children, as part of the GUI study, when they were five years of age principally through parental questionnaires. The findings reported below are derived from the response of the primary caregiver (predominantly the child's mother) to a series of questions relating to play and to the neighbourhood in which the family lives. The primary caregiver was asked to indicate whether or not, or how often their child engages in various types of play and outdoor activities (e.g., climbing trees, playing chasing, riding a bike) and to answer questions about their neighbourhood.

## Results

The results indicated there is almost universal access to outdoor play equipment such as a bicycle or roller skates (99.2%). As Table 1 below illustrates most children ride a bike, tricycle or scooter multiple times per week. The most popular daily activity of those measured is playing chasing (64%). Climbing on things such as trees, climbing frames or wall bars is engaged in less frequently than the other forms of outdoor play measured as only 27.1% do this sort of activity daily (with the exception of skating which may be beyond the balance capabilities of most five year olds).

Table 1: Percentages of parents reporting how often their child engages in various outdoor activities

|  | Never | Less than once per week | 1-2 times per week | 3-6 times per week | Every day |
|--|-------|-------------------------|--------------------|--------------------|-----------|
| Skates                                     | 83.9  | 7.3                     | 4.0                | 2.0                | 2.7       |
| Climbs on trees, climbing frame, wall bars | 12.2  | 18.8                    | 24.9               | 16.6               | 27.1      |
| Plays with a ball                          | 1.5   | 8.4                     | 21.1               | 21.7               | 47.2      |
| Rides a bike, tricycle or scooter          | 3.1   | 7.0                     | 17.3               | 24.0               | 48.6      |
| Plays chasing                              | 1.0   | 2.7                     | 10.7               | 21.1               | 64.3      |

Examining the neighbourhood environment indicated that most parents are satisfied with the neighbourhood in which they live. Only 2.5% of parents reported that their neighbourhood was a poor or very poor place to bring up children, whereas 87.7% reported that their neighbourhood was good or excellent (9.7% reported that it was average). Table 2 below shows that most parents strongly agree/agree that their neighbourhood is safe (96.1%) and that it is safe for children to play outside (83.3%).

Table 2: Percentage of parents agreeing and disagreeing with statements relating to neighbourhood safety and facilities

|   | Strongly Agree | Agree | Disagree | Strongly Disagree |
|---|----------------|-------|----------|-------------------|
| This is a safe neighbourhood                              | 58.2           | 37.8  | 3.1      | .8                |
| There are good parks, playgrounds and play spaces         | 33.6           | 38.4  | 19.1     | 9.0               |
| The state of footpaths, roads and street lighting is good | 24.6           | 45.5  | 19.9     | 10.1              |
| There is heavy traffic on my street or road               | 9.9            | 20.1  | 45.8     | 24.2              |
| It is safe for children to play outside during the day    | 35.3           | 48.0  | 11.9     | 4.8               |
| Most people in your neighbourhood can be trusted          | 33.6           | 58.3  | 6.8      | 1.3               |

However, a substantial minority agree/strongly agree that there is heavy traffic on their road (30%), disagree/strongly disagree that there are good parks, playgrounds or play spaces (28.1%) or that the state of footpaths, roads and lighting is good (30%) and report that litter lying about is fairly/very common (24%) (see also Table 3 below).

Table 3: Percentage of parents reporting unsocial behavior in their neighbourhood

|  | Very common | Fairly common | Not very common | Not at all common |
|--|-------------|---------------|-----------------|-------------------|
| Rubbish and litter lying about               | 6.0         | 16.0          | 43.8            | 34.2              |
| Homes and gardens in bad condition           | 1.6         | 6.8           | 51.1            | 40.6              |
| Vandalism and deliberate damage to property  | 1.8         | 6.7           | 41.6            | 49.8              |
| People being drunk or taking drugs in public | 1.9         | 5.4           | 30.6            | 62.2              |

A series of chi-square tests were conducted in order to investigate if the safety of the neighbourhood was a factor in how often children engaged in the various forms of outdoor play. We used responses to the statement ‘it is safe for children to play outside during the day’ as an overall indicator of neighborhood safety and parent’s willingness to allow their children play outdoors. We compared these responses with how often they reported their child engaged in the various outdoor activities. The chi square tests examining each of the activities indicated significant associations between how often the activities are engaged in and the parent’s rating of the safety statement (See Table 4), all  $X^2 > 32$ ,  $df = 15$ , all  $p$ ’s  $< .001$ .

Table 4: Percentage of children engaging in various activities every day (as reported by parents) for parents who ‘strongly agree’ or ‘strongly disagree’ that is safe for their children to play outside during the day

| Does activity everyday                     | Strongly agrees ‘It is safe to play outside’ | Strongly disagrees ‘It is safe to play outside’ | Average (as reported in Table 1) |
|--|--|---|----------------------------------|
| Skates                                     | 3.3  | 1.2   | 2.7                              |
| Climbs on trees, climbing frame, wall bars | 31.5   | 23.1  | 27.1                             |
| Plays with a ball                          | 51.4   | 41.3  | 47.2                             |
| Rides a bike, tricycle or scooter          | 55.4   | 38.7  | 48.6                             |
| Plays chasing                              | 68.3   | 62.5  | 64.3                             |

## Discussion

It is encouraging to note that the majority of parents report that their children engage in some sort of outdoor play everyday, whether it is riding a bike, playing chasing or playing ball. Of note in the reported findings are that daily rates of some outdoor play activities such as climbing trees or using climbing frames (27.1%) are considerably lower than daily rates of other types of outdoor play activities such as chasing (64%) or other types of play in this sample (e.g. pretend play, 67.8%, as previously reported by Smyth, 2016). Lower rates of this type of activity may be present because of a lack of access to climbing frames or trees suitable for climbing in the neighbourhood, whereas chasing or playing ball involves little or no equipment. Different types of play and games support the development of different physical and psychological skills and therefore parents should encourage a variety of play activities in their young children.

However, how safe the parent thinks it is for their child to play outside impacts on how often the children play outside and an unsafe neighbourhood may be one of the barriers to outdoor play, consistent with previous research (e.g., Toldbert Kimbro, et al., 2011). In their recent obesity campaign evaluation, Safefood (2017) reported that parents identified playing outside with friends/neighbours as the most successful method to increase the amount of physical activity their child gets. However, bad weather (44%) and spending time on screens (26%) indicated as barriers to promoting physical activity. The findings reported here suggest that the safety of the outdoor environment may also be a factor in the frequency of outdoor activities for Irish children, particularly for the minority of families who report that they live in an unsafe neighbourhood.

One limitation of the findings is that the data collected only measured how many days per week the children engage in the various activities and not how long the children might engage in the activities each day, and future research might address this point. Also, it is important to note that levels of children’s play in the GUI data at age five are only based on parental responses, rather than asking the children directly or observing them. It may be the case that the children engage in the activities measured (e.g., climbing trees, bike riding) more or fewer times per week

than parents are aware of. However, given the relatively young age of the children, a high level of parental supervision or involvement in these outdoor activities might be expected. While this research gives us a sense of outdoor play at home, as reported by parents, further research is also needed to explore the extent of outdoor and physical play in early childhood settings and schools, the importance of which is advocated in *Aistear*, The Early Childhood Curriculum Framework in Ireland (NCCA, 2009), *Siolta*, the National Quality Framework for early childhood education (Centre for Early Childhood Development and Education (CECDE), 2006) and the Early Years Services Regulations (2016) governing early childhood settings.

One of the national outcomes in ‘Better Outcomes Brighter Futures: National Policy’ framework for children and young people 2013-2020, (Department of Children and Youth Affairs (DCYA), 2014) is the active and healthy physical and mental wellbeing of all children. Given the prevalence of obesity in very young children (The Economic and Social Research Institute (ESRI), 2011, 2013; Bel-Serrat et al., 2017), physical activity and play outdoors needs to be nurtured in the earliest years. Resources are available for parents such as ‘*Outdoor play matters*’ by Barnardos (2014) which is designed for parents and care-givers of young children, and highlights the importance of outdoor play experiences.

All children should have opportunity to play outdoors in a safe environment each day. Health extends beyond personal well-being to community well-being (Kaplan and Kaplan, 2005) and social capital (cohesion, social trust and sense of community) can have a direct impact on health-related quality of life for parents and children (Underdown, 2007). Safe and Supportive Chemical, Physical, and Built Environments are highlighted as one of the key foundations of lifelong health (The Center on the Developing Child at Harvard, 2010) and parents and communities need to be supported to promote the health and well-being of young children.

## **Conclusion**

Play is an essential activity for all aspects of children’s development. Although the majority of young Irish children engage in outdoor play, neighbourhood safety is a factor, and there is still significant scope to encourage further participation in activities such as outdoor games of chasing and climbing on a daily basis to support development. An understanding of the extent and types of outdoor play engaged in in Ireland by young children, and the barriers to it, should be useful to parents, preschools, schools, and policy makers.

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