



## Rostrum

# The importance of outdoor play for young children's healthy development



Gabriela Bento<sup>a,\*</sup>, Gisela Dias<sup>b</sup>

<sup>a</sup> University of Aveiro, Department of Education and Psychology, Campus Universitário de Santiago, Aveiro, Portugal

<sup>b</sup> Creche – Jardim de Infância ANIP, Coimbra, Portugal

## ARTICLE INFO

### Article history:

Received 5 December 2016

Accepted 4 March 2017

Available online 6 April 2017

### Keywords:

Outdoor play  
Children  
Education  
Health  
Development

## ABSTRACT

Changes in current societies are affecting childhood experiences. Time for outdoor play is diminishing, contributing to more sedentary lifestyles, disconnected from the natural world. Recognizing the importance of outdoor play for young children's healthy growth, a project focused on the exploration of the outdoor environment was developed with a group of young children in an early childhood education setting in Portugal. The project aimed to transform educational practices, moving from frequent indoor activities to a regular use of the outdoor environment. In this paper, we present the main dimensions related to outdoor play that emerged during the project (contact with natural elements, importance of risk, socialization opportunities) and highlight the role of professionals and families in creating quality outdoor play opportunities.

© 2017 Published by Elsevier España, S.L.U. on behalf of PBJ-Associação Porto Biomedical/Porto Biomedical Society. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

## Introduction

The importance of play for children's healthy development is grounded in a strong body of research.<sup>1-3</sup> As a natural and compelling activity, play promotes cognitive, physical, social, and emotional well-being, offering the necessary conditions for children to thrive and learn. Through play, the child can experiment, solve problems, think creatively, cooperate with others, etc., gaining a deeper knowledge about his/herself and the world. From an early age, the possibility to experience several opportunities for unstructured play, in which the child can decide what to do, with whom and how, promotes positive self-esteem, autonomy, and confidence.

Acknowledging the influence of time and space in play experiences, in this article we address the special contribution of the outdoor environment to fulfil children's needs for free play, reporting into an outdoor educational project developed with a group of 14 children, between 15 and 36 months old, in a Portuguese early childhood setting. The work presented aims to identify important dimensions of outdoor play that contribute to effective learning and healthy development, and highlight the role of professionals

and families in the provision of such experiences in early childhood education settings.

## Outdoor play in current society and education settings

The specific features and stimulus of the outdoor environment provide for different play opportunities that can hardly be replicated inside.<sup>4</sup> The outdoors can be described as an open and constantly changing environment, where it is possible to experience freedom, gross and boisterous movements, and contact with natural elements.<sup>5</sup> While playing outside, children benefit from being exposed to sunlight, natural elements, and open air, which contributes to bones development, stronger immune system and physical activity.<sup>6,7</sup> The need to be physically active from an early age is particularly relevant if we consider the concerning growth of children's obesity and overweight. According to the World Health Organization,<sup>8,9</sup> Portugal is the second European country with the highest values of overweight among children with 11 years old (32%), being preceded by Greece (33%) and proceeded by Ireland (30%). Also, play in green outdoor environments promotes higher levels of attention and well-being.<sup>10-12</sup>

However, the growing evidences about the importance of outdoor play does not seem to have an impact in the type of experiences that children have access to. Contrary to what would be expected, opportunities for outdoor play are diminishing, in consequence of globalization, technology expansion and urban growth.<sup>13</sup>

\* Corresponding author.

E-mail address: [gportugalbento@ua.pt](mailto:gportugalbento@ua.pt) (G. Bento).

A growing culture of fear about the possible accidents that might happen affect parent's and professionals attitude towards outdoor play, so children tend to be kept inside, occupied with structured activities, and controlled by adults.<sup>3,14,15</sup> Possible hazards, interactions with strangers and car traffic are the most frequent factors mentioned by parents for not letting their children play outside, even though they acknowledge the importance of such experiences.<sup>13,16</sup> According to Gill,<sup>14</sup> these fears are often brought by misinterpretations of reality, without having a real expression in society. For example, the fear about child's abduction is not linked to an increase in these type of crimes, although a greater emphasis is given to these situations by social media.

Adding to this, there is a concern to occupy children during the day, considering that most parents work long hours and want to guarantee the best opportunities for children to acquire different skills and knowledge. Academic activities and sports often occupy children's time to play freely. Going from one activity to another, children tend to be transported by car, without experiencing the outdoor environment through the interaction with the community.<sup>17,18</sup>

In this scenario, there is a need to raise general awareness regarding children's right to play outdoors, as well as its potential in supporting children's well-being, learning and development. Acknowledging the time children spend in educational settings, concerns about the time and space to play outside should be integrated in education planning and intervention, starting in day-care and kindergarten. In Portugal, research shows that early childhood education is too centred in what happens inside the activity room, wrongly considering that the outdoor environment serves merely as recess time, during which children can stretch their legs and expend their energy.<sup>19–23</sup> A recent study focused on the use of outdoor spaces in four Portuguese kindergartens showed that the number of times children go outside is very reduced, especially in the winter months. Children tend to spend long periods in closed environments, more exposed to disease contamination and saturated air.<sup>24</sup> Also, the time spent outside was often insufficient, varying between 16 and 30 min. This is a very short period for children to take advantage of the benefits related to outdoor play, being recommended a minimum of 40 min, per day.<sup>7</sup>

### The outdoor education project

With the desire of offering a different educational response to young children and acknowledging the importance of the outdoors for learning and development, a Portuguese early childhood a Portuguese early childhood centre took the initiative of implementing an innovative outdoor education project, going against the tendency of keeping children inside. During a period of three years, the setting located in a rural area in the centre of Portugal, catering for children from 4 months to 10 years of age (from 6 to 10 years old children attend an after school service), introduced gradual changes in pedagogical practices, in order to create quality outdoor play opportunities for children.

Despite having a large and well equipped outdoor area, with natural elements and different type of structures to promote play, in the beginning of the project the children did not used the outdoors regularly. The professionals perceived the indoor environment has being more secure and comfortable, so they avoided going outside for long periods. They were also afraid about possible accidents or diseases that might affected children, fearing for negative reactions from the families.

To overcome these obstacles, a methodology close to action-research was adopted to facilitate practices' transformation, which included teachers' training in outdoor play, regular team meetings and observations of children's play. In this way, problems that

emerged were interpreted as mile stones in the process of improving educational practice and specific strategies were experimented to achieve a solution.

This outdoor project directly involved all the early childhood teachers of the institution (5 women) and, indirectly, the board of the setting, other professionals, families, community members and, of course, the children. In this paper, the experience of one of the groups, with 14 children between 15 and 36 months old will be shared.

Through qualitative data collection techniques, such as observations, written records, videos and photographs focused on children's outdoor play, three dimensions were identified as key to promote learning and development: contact with natural elements; importance of risk; socialization opportunities. The analysis of each dimension will take in consideration current international literature. Also, these three components of outdoor play can only be fully developed if children are accompanied by attentive and responsive adults, concerned with their needs and interests.<sup>25,26</sup> The role of professionals and families in this project is also presented, considering that cooperation between adults is an important aspect for the success of outdoor play experiences.

### *Promoting learning and development outside*

#### *Contact with natural elements*

The outdoor environment offers unique stimulus that capture children's attention and interest. Sticks, rocks, flowers, soil, water, etc., are explored with curiosity and drive to learn, as they offer countless possibilities for play. As White<sup>27</sup> states, natural elements are open-ended materials, that can respond to children's imagination and needs. In this process of reinvention and assigning new meaning to objects (e.g. a stick can be a gun, a boat or a pen), it is possible to mobilize skills related to divergent thinking, creativity, problem solving, among others. The use of natural elements in children's play also creates a more sustainable strategy in what concerns resources provision. Natural elements are easy to find, cheap and they do not offer the limited options that commercial toys do.<sup>28</sup>

The exploration of natural elements is also important to capture children's attention to the richness and diversity of Nature. The sense of discovery and fascination influences meaningful learning and allows for the development of an emotional connection towards the environment. If we assume that attitudes of respect and care are more likely to emerge regarding something that is dear to us, than it is crucial to promote a sense of belonging and familiarity towards Nature from an early age to facilitate ecological and sustainable behaviours along life.

Through outdoor play and the exploration of natural elements, it is possible to promote education in its broadest sense. Activities related to playing with soil and water can serve as examples of learning opportunities in which concepts related to mathematics, science or language were promoted in an integrated way. As children filled and emptied containers, several times, they could explore notions related to weight, volume and time, and as they talked about what they were experiencing, new vocabulary was being acquired. Similar findings were found in other researches, showing, for example, children's ability to learn and employ mathematical products and procedures during outdoor play, using their body as a learning tool.<sup>29,30</sup>

It what concerns health, the interaction with natural elements such as the soil helps build immunity. Growing research has been showing the importance of experiences that promote the contact with "harmless microbes", that provide protection against diseases.<sup>31</sup> Among the group we worked with, some children had respiratory and skin problems (e.g. asthma and eczemas), and going

outside often helped them deal with periods of aggravated symptoms.

#### *Importance of risk*

Today's society often neglects the importance of risk for children's learning and development. A culture of fear lead us to underestimate what children are capable to do, creating an even more "dangerous" learning environment, where children do not have the possibility to learn, by experience, how to stay safe.<sup>14,32</sup> It is essential to adopt a wider vision of risk, going beyond the possibility of accidents to consider the positive implications related to the feelings of success and happiness when a challenge or a new skill is mastered.<sup>33,34</sup>

In the outdoor environment, opportunities to exceed personal limits often emerge in situations like climbing up a tree or using a tool. In risky play, the adult should interpret the signs of the child, giving the necessary support or space that he or she needs. From our experience and following other studies in this area, it is possible to state that risky play promotes important skills related to persistence, entrepreneurship, self-knowledge and problem solving.<sup>35,36</sup>

During outdoor play, children should have the opportunity to experiment moments of failure and success, learning by trial and error. If we try to prevent all risky situations, children will not know how to deal with unpredictable environments and will lack the necessary confidence to overcome challenges in an autonomous way. During the project, we had different situations in which risk emerge, for example when wild mushrooms appeared in the garden, after a period of rain, and children were interested by that phenomena. In that situation, we could either prohibit the exploration or help children understand what was happening in the safest way possible. Choosing the second option, we told the children that it was very dangerous to eat the mushrooms and we gave them some tools to facilitate observation (e.g. magnifying glass and clamps). We always remain close to them, helping, and answering to the questions that emerged. If we had avoid going out because of the mushrooms or if we had ignored that situation, an important learning opportunity would have been missed.

#### *Socialization opportunities*

The environment created outside can offer interesting conditions for children and adults to show different aspects of their personality, which normally do not emerge during the time indoors. Following the findings of Maynard, Waters and Clement,<sup>37</sup> we have realized that outdoor play allows for a deeper knowledge about children, facilitating a more adequate educational intervention from the adult. Likewise, less conflicts occur during outdoor play and children tend to cooperate more with each other.<sup>28,38</sup> The characteristics of the space (open and unpredictable) enable the development of joint goals between children, leading to experiences of companionship among peers. During outdoor play, children become teachers and learners, sharing their knowledge and skills to accomplish different tasks or challenges. In this process of cooperation, it is possible to develop empathy, as children begin to understand other's people feelings and needs. The crucial difference about socialization in the outdoor environment is that opportunities for interaction happen in a gradual way, giving children the possibility to choose the moments to connect with others or to play individually, without having to continually run into each other as it so often happens in close and exiguous rooms.

The interaction with adults also seem to be facilitated in the outdoor area. In different moments along the project, adults recognized that they felt more available to support children outside, where they felt relaxed and calm. This statement suggests that the outdoor environment is not only a healthy environment for children, but also for adults, where the levels of stress and anxiety seem to diminish. Other studies found evidences that support different

models of interaction between adult and child during outdoor play, being more child-led, flexible and based on dialogue about children's discoveries and interests.<sup>4,39,40</sup>

#### *The role of professionals and families in the provision of outdoor play experiences*

To develop quality outdoor practices, that can have a positive impact in children's health and development, it is fundamental to promote conditions for adults to feel comfortable and motivated during the time spent outside. Adult's involvement will influence the type of experiences that children have access to and how they incorporate new knowledge. From the experience acquired during the project it is possible to state that teamwork is a crucial component for quality planning and intervention, facilitating the need for constant evaluation and reflection upon children's well-being and involvement.

Besides from collaboration among professionals, families should participate as much as possible in outdoor play. If professionals explain to the parents why it is important to play outside and make an effective effort to get them involved and satisfied, possible negative reactions related to fears about children getting sick, dirty or injured will be progressively solved. It is important to never forget that most families just want the best for their children and it is the job of professionals to help them achieve this goal. Desirably, the valorization of outdoor time from parents will also promote the integration of these type of experiences in family routines, creating conditions for stronger and more positive effects in children's development.

To overcome parents' anxieties and to promote quality outdoor play experiences, it was very important to assure that all children had proper equipment to play outside in different weather conditions (e.g. waterproof suits and rubber boots for winter). Having the adequate clothes is an essential dimension to assure children's safety and health. Also, we encouraged the parents to talk to the children's paediatrician about outdoor play, especially regarding children's respiratory and skin problems. This effort of articulation between health and education professionals was very important to earn parents' confidence in this learning approach.

Finally, the cooperation between family and school allowed for a progressive improvement of structures and play resources available outside. Often, parents offered their skills and time to the setting, working afterhours to build or recover play structures (e.g. trees houses, benches and tables for children) or collecting daily objects for children to play with (e.g. kitchen supplies to play with soil and water).

During the development of the project we always good lines of communication with families, trying to find solutions and strategies that satisfied everybody's needs.

#### **Final thoughts**

The need to guarantee that children have the possibility to play outside, facing adventures and challenges, without being constantly engaged in activities controlled by adults is a recent concern for most western societies. We have evolved to a more modern, technological, and globalized world but, in the process, we lost habits and experiences that influence our quality of life. One of the major challenges of present and future generations may be the need to find a balance between an increasingly "busy" society and the preservation of experiences of well-being and connection to the world. The educational settings have an important role in this process, guarantying that during the first years of life children have the means and opportunities to develop a positive self-esteem, curiosity and motivation about learning and good socialization

skills. The quality experienced in education services may help the child to overcome vulnerabilities related to other contexts (e.g. poverty, low levels of parents' education). Opportunities to contact with Nature, deal with risks, and socialize with peers and adults in a responsive and caring environment will contribute to quality educational experiences, influencing children's motivation and enthusiasm about learning and school.

The valorization of early years and outdoor play can be understood as a mean to promote healthier lifestyles, acknowledging that today's children will be the adults of tomorrow. Parents, educators, and policy makers should work to promote better childhood experiences, guarantying that children's interests are considered in urban and school planning. Without ignoring the slow rhythm of practices transformation, it is important to instigate educational settings to promote outdoor play, considering the amount of time that children spent in school and the impact of those experiences for learning and development.

With these ideas in mind, this testimony aims to highlight the importance of outdoor play in natural environments for children's learning and development and to inspire and challenge others to take advantage of the opportunities that the outdoor environment can offer.

### Conflicts of interest

The authors declare no conflicts of interest.

### References

- Pellegrini AD, Dupuis D, Smith PK. Play in evolution and development. *Dev Rev.* 2007;27:261–76. Available from: <http://linkinghub.elsevier.com/retrieve/pii/S0273229706000633>
- Pellegrini AD, Smith PK. The development of play during childhood: forms and possible functions. *Child Psychol Psychiatry Rev.* 1998;3:51–7. Available from: <http://doi.wiley.com/10.1111/1475-3588.00212>
- Ginsburg KR. The importance of play in promoting healthy child development and maintaining strong parent–child bonds. *Pediatrics.* 2007;119:182–8.
- Stephenson A. Opening up the outdoors: exploring the relationship between the indoor and outdoor environments of a centre. *Eur Early Child Educ Res J.* 2002;10:29–38.
- Maynard T, Waters J. Learning in the outdoor environment: a missed opportunity? *Early Years.* 2007;27:255–65. Available from: <http://www.tandfonline.com/doi/abs/10.1080/09575140701594400>
- Dyment JE, Bell AC. Grounds for movement: green school grounds as sites for promoting physical activity. *Health Educ Res.* 2008;23:952–62.
- Bilton H. Outdoor learning in the early years. Management and innovation. Oxon: Routledge; 2010.
- World Health Organization. Ending childhood obesity. Geneva: World Health Organization; 2016. Available from: [http://www.paho.org/bra/index.php?option=com\\_content&view=article&id=4997:relatorio-da-comissao-pelo-fim-da-obesidade-infantil-busca-reverter-aumento-de-sobrepeso-e-obesidade&Itemid=821](http://www.paho.org/bra/index.php?option=com_content&view=article&id=4997:relatorio-da-comissao-pelo-fim-da-obesidade-infantil-busca-reverter-aumento-de-sobrepeso-e-obesidade&Itemid=821)
- World Health Organization. Country profiles on nutrition, physical activity and obesity in the 53 WHO European Region Member States. Copenhagen: World Health Organization; 2013. Available from: <http://www.euro.who.int/en/publications/abstracts/country-profiles-on-nutrition-physical-activity-and-obesity-in-the-53-who-european-region-member-states-methodology-and-summary-2013>
- Martensson F, Boldemann C, Soderstrom M, Blennow M, Englund J-E, Grahm P. Outdoor environmental assessment of attention promoting settings for preschool children. *Health Place.* 2009;15:1149–57.
- Wells NM, Evans GW. Nearby nature. A buffer life stress among rural children. *Environ Behav.* 2003;35:311–30. Available from: <http://linkinghub.elsevier.com/retrieve/pii/S0272494401902415%5Cnhttp://search.proquest.com/docview/1553177176?accountid=13793%5Cnhttp://setonhall.on.worldcat.org/atoztitles/link?sid=ProQ&issn=00405914&volume=48&issue=2&title=Therapeutic+Recreation+Journ>
- Abraham A, Sommerhalder K, Abel T. Landscape and well-being: a scoping study on the health-promoting impact of outdoor environments. *Int J Public Health.* 2010;55:59–69.
- Singer DG, Singer JL, D'Agostino H, DeLong R. Children's pastimes and play in sixteen nations. *Am J Play.* 2009;283–312.
- Gill T. Sem medo: crescer numa sociedade com aversão ao risco. Cascais: Príncipe; 2010.
- Kernan M, Devine D. Being confined within? Constructions of good childhood and outdoor play in early childhood education and care settings in Ireland. *Child Soc.* 2010;24:371–85.
- Veitch J, Robinson S, Ball K, Salmon J. Where do children usually play? A qualitative study of parents perceptions of influences on children's active free-play. *Health Place.* 2006;12:383–93.
- Lopes F, Cordovil R, Neto C. Children's independent mobility in Portugal: effects of urbanization degree and motorized modes of travel. *J Transp Geogr.* 2014;41:210–9. Available from: <http://dx.doi.org/10.1016/j.jtrangeo.2014.10.002>
- Cordovil R, Lopes F, Neto C. Children's (in)dependent mobility in Portugal. *J Sci Med Sport.* 2015;18:299–303. Available from: <http://dx.doi.org/10.1016/j.jsams.2014.04.013>
- Bento G. O perigo da segurança: estudo das percepções de risco no brincar de um grupo de educadoras de infância. Universidade de Coimbra; 2012.
- Figueiredo A. Interação Criança-Espaço Exterior em Jardim de Infância. Universidade de Aveiro; 2015.
- Moreno D. Jogo de atividade física e a influência de variáveis biosociais na vida quotidiana de crianças em meio urbano. Universidade Técnica de Lisboa; 2009.
- Neto C. Tempo & espaço de jogo para a criança: rotinas e mudanças sociais. In: Neto C, editor. O jogo e o desenvolvimento da criança. Lisboa: Edições FMH; 1997. p. 10–22.
- Bento G, Portugal G. Valorizando o espaço exterior e inovando práticas pedagógicas em educação de infância. *Rev Iberoam Educ.* 2016;72:85–104.
- Mendes A, Aelenei D, Papoila AL, Carreiro-Martins P, Aguiar L, Pereira C, et al. Environmental and ventilation assessment in child day care centers in Porto: the ENVIRH Project. *J Toxicol Environ Health A.* 2014;77(14–16):931–43. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/25072725>
- Howard J. Early years practitioners' perceptions of play: an exploration of theoretical understanding, planning and involvement, confidence and barriers to practice. *Educ Child Psychol.* 2010;27:91–102.
- Maynard T, Waters J, Clement J. Moving outdoors: further explorations of “child-initiated” learning in the outdoor environment. *Education* 3–13. 2013;41:282–99. Available from: <http://www.tandfonline.com/doi/abs/10.1080/03004279.2011.578750>
- White J. Playing and learning outdoors. Making provision for high-quality experiences in the outdoor environment. Oxon: Routledge; 2008.
- Bilton H, Bento G, Dias G. Taking the first steps outside. Oxon: Routledge; 2017.
- Franzén K. Under threes' mathematical learning. *Eur Early Child Educ Res J.* 2014:1–12.
- Sumpter L, Hedefalk M. Preschool children's collective mathematical reasoning during free outdoor play. *J Math Behav.* 2015;39:1–10. Available from: <http://dx.doi.org/10.1016/j.jmathb.2015.03.006>
- Haahtela T. Why medical community should take biodiversity loss seriously? *Porto Biomed J.* 2016.
- Bundy AC, Luckett T, Tranter PJ, Naughton Ga, Wyver SR, Ragen J, et al. The risk is that there is “no risk”: a simple, innovative intervention to increase children's activity levels. *Int J Early Years Educ.* 2009;17:33–45. Available from: <http://www.tandfonline.com/doi/abs/10.1080/09669760802699878>
- Stephenson A. Physical risk-taking: dangerous or endangered? *Early Years.* 2003;23:35–43.
- Sandseter E. Restrictive safety or unsafe freedom? Norwegian ECEC practitioners' perceptions and practices concerning children's risky play. *Child Care Pract.* 2012;18:83–101. Available from: <http://dx.doi.org/10.1080/13575279.2011.621889>
- Stephenson A. Physical risk-taking: dangerous or endangered? *Early Years.* 2003;23:35–43.
- Tovey H. Achieving the balance. In: White J, editor. Outdoor provision in the early years. London: Sage Publications; 2011. p. 12–22.
- Maynard T, Waters J, Clement J. Child-initiated learning, the outdoor environment and the “underachieving” child. *Early Years.* 2013;33.
- McClain C, Vandermaas-Peeler M. Social contexts of development in natural outdoor environments: children's motor activities, personal challenges and peer interactions at the river and the creek. *J Adventure Educ Outdoor Learn.* 2015;16:31–48. Available from: <http://www.scopus.com/inward/record.url?eid=2-s2.0-84954364318&partnerID=tZOTx3y1>
- Waller T. The trampoline tree and the swamp monster with 18 heads: outdoor play in the foundation stage and foundation phase. *Education* 3–13. 2007;35:393–407. Available from: <http://www.tandfonline.com/doi/abs/10.1080/03004270701602657>
- Waters J, Maynard T. What's so interesting outside? A study of child-initiated interaction with teachers in the natural outdoor environment. *Eur Early Child Educ Res J.* 2010;18:473–83.