

Urban outdoor education as a driver for active mobility in children

ANTONIO BORGOGNI¹, VALERIA AGOSTI²

^{1,2}University of Bergamo, Department of Human and Social Science, ITALY

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Abstract

According to recent comparative research data, children in Italy are about three to four years behind the first-ranked countries on their independent mobility (Shaw et al., 2015): only the 7% of the children aged 7-11 are autonomous (Renzi, Prisco, Tonucci, 2014) and the 28% (aged 8-11) are active (CCM-ISS, 2017) on the route to school. These data provide a clear picture of how, and how much, these factors influence the low rate of moderate and moderate to vigorous physical activity among the Italian 11 years old children (WHO-Europe, 2016) and aerobic physical activity among adolescents (Eurostat, 2017): a wake-up call for the structuring of non-virtuous sedentary behaviors. The paper aims to refocus the attention of the interdisciplinary debate on the active role of children within the public urban realm and the potential influences that the city, its structure, regulations and spaces has on children intended as a vulnerable population group. In order to do so, some reflections on the relationship between “the child and the city” are presented, also supported by original research-intervention on a walk-to-school programme (Arduini, 2018; Borgogni, Arduini, Digennaro, 2018; Dorato, Borgogni, 2020) investigating children's active and independent mobility within the urban context; the latter represents an opportunity to develop new, more sustainable, livable and healthy urban environments for all. In conclusion, a discussion on the pivotal role of educational intentionality in planning public spaces is developed presenting some legislative possibilities arising from the current pandemic situation that has highlighted, even more, the urgent need for reflection on outdoor education.

Keywords: public spaces, outdoor education, educational intentionality, active city, children

Introduction

The scientific attention to Outdoor Education (Waller et al., 2017) has witnessed significant growth in the past years due to the progressive indoorization (Risse, 1921; Bale 1993) of physical activity and sport practices in the educational field, both formal and informal. The research on Outdoor Education in Italy has focused on the relevance of outdoor “natural” environments supporting children’s growth and wellbeing (Farné, Agostini, 2014; Farné, Bortolotti, Terrusi, 2018; Bortolotti, 2019). However, less attention has been drawn to urban environments and how to link pedagogical and educational aspects to town planning and design, and physical activity levels.

Urban environments are the main living settings for Italian children, and therefore not focusing on them carefully may cause the risk to think about outdoor education as a dispositive that can be actuated far away from schools, in parks or in the schoolyards – unless school buildings are close to the woods or in the countryside.

Due to the current pandemic situation, a sharp rise in considering outdoor spaces for education has been recorded in Italy, historically affected by an obsessive social drift, well represented in the legislation concerning children’s health and safety, as well as adults’ (e.g., educators, caregivers, parents, relatives, coaches) legal responsibility.

As a consequence of these factors, and according to comparative researches, children in Italy are about three to four years behind the first-ranked countries on their independent mobility (Shaw et al., 2015): only the 7% of the children aged 7-11 are autonomous (Renzi, Prisco, Tonucci, 2014) and the 28% (aged 8-11) are active (CCM-ISS, 2017) on the route to school against 40% in France and 52% in Spain (WHO, 2018). These factors are also influencing the low rate of moderate and vigorous physical activity among the Italian 11-year-old children (WHO-Europe, 2016) and aerobic physical activity among adolescents (Eurostat, 2017). only 28% aged 8-11 are active (CCM-ISS, 2017). Moreover, in Italy a very few interventions have been tested, as well as very few researches have been carried out addressing the complex child-city dichotomy.

Referring to the overall Active City approach (Edward, Tsouros-WHO Europe, 2008; Borgogni, 2012; SUSTRANS, 2015) the interpretation and discussion of the results opened the way to the development of a conceptual model (Borgogni, Arduini, Digennaro, 2018; Dorato, Borgogni, 2020) aiming to embrace the typologies of PA performed by children considered from the point of view of their independent mobility and autonomy. Focusing on health, walking to school, going autonomously to meet friends or for small errands, playing, are routine actions greatly contributing to reach the PA recommendations; focusing on education, the same activities are crucial to learn competences and the written and unwritten intrinsic rules of the urban

environment; thinking at social aspects, they allow children to create acquaintanceships and friendships building relationships without adults' supervision.

Materials and Methods

This article is part of interdisciplinary research jointly carried out by scholars of diverse fields aiming at focusing the attention of the interdisciplinary debate on the active role of children within the public urban realm and on the potential influences that the city, its structure, regulations and spaces, has on children intended as a vulnerable – from the independent and safe mobility point of view – population group. Two research groups are officially cooperating under the research agreement signed in 2020 between the University of Bergamo, Department of Human and Social Sciences, and the University of Ferrara, Department of Architecture.

The research is generating an inter and transdisciplinary literature review aimed at finding reciprocal influences in the fields of education, physical activity, and urban planning through a rights-based approach assuming the urban complex dynamics and their interplay (e.g. age groups, socio-economical aspects, education, city patterns, neighbourhoods quality, mobility systems) as a whole.

The fundamental role of children's independent mobility and, more generally, independent activity within the urban context represents not only a right, but also an excellent opportunity to develop new, more sustainable, liveable and healthy urban environments for all (Dorato, Borgogni, 2020).

In his well-known book *The Child in the city* (1977), Colin Ward appeals to the urgency of rethinking and updating the city-children dichotomy by placing them at the centre of urban policy and design. Children, Ward argues, have the right to wander around the city, yet the inadequacy of the built environments and their hostility and often dangerousness force them to lock themselves in predetermined and specialised spaces such as the home, schoolyard, sports facilities, fenced and enclosed gardens and playgrounds. These children's rights, nonetheless, have to deal with everyone's rights: "I don't want a Childhood City. I want a city where children live in the same world as I do. Because some bit of the city is designated as a play space on a plan there is no guarantee that it will be used as such, nor that other areas will not be. If the claim of children to the city is to be admitted, the whole environment has to be designed and shaped with their needs in mind" (p. 204).

Since the seventies, as a reaction to car-centred urban and mobility planning, and a related overall decline in environmental sustainability and urban safety, several civil movements flourished in central and northern Europe. These were mainly targeted socio-educational, environmental, and town planning issues, shifting the focus from traffic decongestion to urban populations' wellbeing, improving urban renewal operations through participatory processes. Such experiences focused primarily on traffic calming interventions, to reduce vehicular traffic flows and speed, while giving the streets and public spaces back to the citizens. The Dutch legislation about *woonerf* (1976) was undoubtedly the first provision going in this direction, standing out for their social and educational implications even before the planning ones.

These reflections and provisions were assuming that accessibility, safety and comfort are key characteristics that every urban environment should provide, allowing children to live and experience the city alongside other generations embodying what Henri Lefebvre defined as the right to the city, the "right to freedom, to individualisation, to habitat and to inhabit" (Lefebvre, 1996, p.173), as well as the right to "participation and appropriation" (Franck, Stevens, 2007) of the urban public spaces.

The Active Cities have deployed the specific frame for this work approach, firstly promoted by the WHO-Europe (Edwards, Tsouros, 2008), and then investigated through socio-educational, physical activity (Borgogni, 2012; SUSTRANS, 2015; Borgogni, Farinella, 2017), and town planning perspectives (Dorato, 2020). An "active city" 's fundamental goal is to enhance citizens' opportunities to be physically active within their daily routines. The World Health Organization's original aim was to promote active lifestyles in the urban environment to tackle inactivity-related health issues like noncommunicable-diseases, thus understanding that such development should encompass infrastructural, social, educational, and mobility policies and actions.

The main research question was: how could a community-based action promoted by the University and involving children, parents, teachers, local associations, and the municipality influence children behaviours in a setting that, as showed in previous researche (Pompili, Borgogni, 2013; Arduini, Borgogni, Capelli, 2016), is strongly oriented towards inactive lifestyles and children's dependency?

Between 2015 and 2017, a specific research has been developed in the city of Cassino (Lazio Region), based on a walk-to-school intervention known as *Pedibus* activated for children of the fourth grade (9/10 years old). The research grounded on the hypothesis that the activation and the implementation of a walk-to-school program, together with training activities for teachers and aware-raising interventions targeting parents, could positively influence children's active mobility and lifestyles (Arduini, 2018).

The three-year longitudinal research was based on a mixed-method approach (Creswell, 2014), involving pupils attending the three public primary schools in Cassino and their parents. A questionnaire on children's autonomy (validated by the Italian National Research Centre, CNR-Institute of Cognitive Sciences and Technologies) was used as a research tool, submitted before and after the intervention to third, fourth, and fifth graders aged 8-11 (mean age 9,2). The students also received a questionnaire addressing their parents: in relation to the three years of the study (2015/2016/2017), a number of 693/741/528 questionnaires were returned by children, and 574/597/422 by parents (only two schools in 2017).

The questionnaire was composed of two main sections: socio-demographic data, and children’s autonomy and independent mobility. The questionnaire addressing parents was integrated by sections on sport participation and the use of ICT-devices and the internet. Focus groups (n=09) have also been carried out with teachers (n=2), parents (n=2) and pupils (n=5). Direct observations (n=8) in the area around the intervention school were carried out during school entrance and exit times. The intervention was firstly centred on the *Pedibus* in two out of three schools (2015, following previous experiences). During the second year of implementation, the action became more frequent towards the end of the school year. In the third year, since spring 2017, the action was carried out once a week in the intervention school for all participating students (average attendance n=83).

Results

The data analysis approach has been carried out using a Lexis diagram, graphically representing a determined population's demographic phenomena (Figure 1). Data have been analysed considering the years of administration (abscissa axis), school grade (y-axis) and cohort (diagonal).

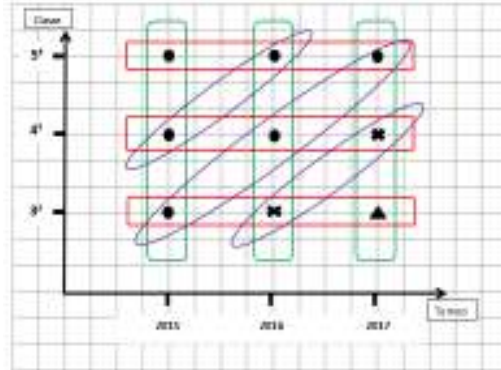


Figure 1 Lexis diagram, adapted for *Pedibus* research – Source: Federico (2017) in Arduini, 2018. Legend/translation: “Tempo = time”; “classe = school grade”.

According to the parents’ pre-intervention questionnaire results, 75,3% of children go to school by car, 7,4% by school-bus, and 17,3% in an active way. Only 3,4% go to school independently. The main motivations preventing families to allow children to be independent in mobility were: distance (55,3%), traffic dangers (17,8%), and “stranger danger” (15,6%). Also 26,6% use the bicycle near the house during extra-school hours, and 12,8% go to friends’ homes alone. Post-intervention results showed a slight increase of active mobility (1%/3% to school/return home) in the intervention school, and a decrease (2%/3% to school/return home) in the control school (Table 1).

Table 1 Active mobility to/from school. Pre-post intervention results (Arduini, 2018, modified).

Active Mobility	Going to school %		Back home %	
	Pre	Post	Pre	Post
Intervention School	17,07	17,89	19,51	22,76
Control School	23,21	21,43	26,79	23,21

Some interesting and at the same time quite worrying results were the tendency to an overall drop of active mobility to school (Figure 1) and back home (Figure 2) over the grades. As shown shown in figure 2 and 3, this tendency concerned the entire group of participating children (n=1547/8), and only remotely it has been influenced by the intervention.

Va attivo	classe			Total
	3	4	5	
No	409 81.15	449 82.84	422 84.06	1,280 82.69
Si	95 18.85	93 17.16	80 15.94	268 17.31
Total	504 100.00	542 100.00	502 100.00	1,548 100.00

Figure 2 The drop of active mobility to school over the grades (percentages). Legend/translation: “Va attivo = going in active way”; “classe = school grade”. Source: Capelli (2017) in Arduini, 2018.

Torna attivo	classe			Total
	3	4	5	
No	396 78.73	439 81.15	408 81.11	1,243 80.35
Si	107 21.27	102 18.85	95 18.89	304 19.65
Total	503 100.00	541 100.00	503 100.00	1,547 100.00

Figure 3 The drop of active mobility back home over the grades (percentages).
 Legend/translation: "Torna attivo = back home in active way"; "classe = school grade".
 Source: Capelli (2017) in Arduini, 2018.

Focus groups with teachers highlighted the impact of normative restrictions and parents' over-control in decreasing children's autonomy. Focus groups with parents also stressed the influence of danger overrepresentation mainly triggered by media. School settings and the lack of community-based planning seem, ultimately, to influence children's independent mobility and their overall autonomy negatively

Discussion

Some results of the research are consistent with the scientific literature: the influence of parents' residence on the independent mobility of children (Macket, 2013); parents' support to children's physical activity and autonomy (Sterdt, Liersch & Walter, 2014); the concerns about traffic and stranger's danger (Oluyomi et al., 2015); an urban and mobility planning either "human-centred" or focused on cars and vehicular traffic (Kercood et al., 2015). Other results are linked to the specificity of the Italian and local situation: the strict legislation about children independent mobility, especially about school exit, the teachers' disquiet about disciplinary measures, the opening hour of the school not allowing children early entrances, the lack of political attention and integrated communitarian actions (Arduini, 2018), the disregard about the preventive effects of physical activity.

Referring to the organisation's expectations, a two month delay at the beginning of the *Pedibus*, and a lower frequency per week influenced the quantity of children's participation. Despite the described limitations, the overall results tend to confirm the hypothesis: a meaningful community action, even in a challenging situation, can influence children and caregivers' behaviours. In three year of the research we observed, in fact, a drop in active mobility in the control school, while the growth in the intervention school was meaningful enough, above all, considering the comparison to control groups.

The very explanation of the results and of the comparison should, however, be unearthed through a complex approach considering children's autonomy and independent mobility as epiphenomenon of cultural, national, and – at least for Italy – regional and even local educational attitudes. Ethnographic (Harkness et al., 2010), multifactorial based on socio economic status (Nyström et al., 2019) or comparative and cross-sectional (Sallis et al., 2016) studies can be helpful in understanding the reasons why children from a country with a pleasant weather and with high levels of independent mobility, physical activity and free play in the outdoor spaces till few decades ago (Borgogni, 2020) has turned to one of the more restrictive in giving licences of free roaming to children. More all-encompassing researches are needed also to give a new incentive to the positive programs, still carried out at local and regional levels, despite the scarce attention by scientific and political representatives.

Conclusions

We trust inter and transdisciplinary researches as a prerequisite for transmuting planning into actions deeply rooted in the idea of prevention. In its sustainable meaning of active lifestyle enterprise, physical activity should aim at the continuity of the practices, instead of selecting athletes by excluding those who are less talented (Borgogni, 2016). Education, both school and parental, should wish children's autonomy as a fundamental scope and, we would stress once more, as a human right. Urban planning should envision a perspective of city livability and sustainability assembling new (technology, life and work time and space reorganisation) and old (the facilitation of the body's movement) factors avoiding risks more or less hidden in "easy-listening", simplified, trends: a smart city is not (only) a technological matter, as we are experiencing in these troubled times; a "15-minute city", as an approach to urban planning and design that aims to improve quality of life by creating cities where everything a resident needs can be reached within 15 minutes by foot, bike or public transit is useless if the inhabitants perceive the distance out of their walking or cycling self-efficacy and competences.

As never has been in humankind's history it is nowadays a matter of "minimal phenomenologies", making converge the city's idea with the possibilities and experiences of actually walking through it, experiencing it, interpenetrating the human with the urban bodies. If the street loses its function, indulging only in traffic and commerce, the public space – that "[...] "river of life for the city, the place where we come together" (Whyte, 2012, p. 7) – deprives the entire city, accepting only the bodies of those who transit it

functionally. A few decades ago, a child who did not go out in the street was considered strange; nowadays, it is strange to meet one walking alone. The bodies of children risk becoming "out of place" if not escorted, like other marginalised bodies (De Martini Ugolotti, 2020).

The Italian Ministry of Education, in the summer of 2020, with regard to the current Covid-19 pandemic has drawn up a "Document for the planning of school, educational and training activities" for the peculiar academic year 2020-2021, introducing the so-called "Community Educational Pacts" (*Patti Educativi di Comunità*). The provision aims at strengthening territorial alliances, also by involving private stakeholders or associations, to encourage the organisation of other structures or spaces, such as parks, theatres, libraries, archives, cinemas, museums, to carry out complementary educational activities, thus physically and metaphorically "expanding" school spaces and supporting the education facilities in this difficult emergency situation. Some virtuous regions have already adopted such new instruments, which are currently being tested.

Moreover, with the so-called "Simplifications Decree" (Law n.120 September 11, 2020) the Italian Government is trying to overhaul some of the existing norms for improving pedestrians and cyclists' protection in urban areas. The Law also introduces the concept of a "school zone" concept, an urban area near school buildings where "special protection of pedestrians and the environment is guaranteed". Without courageous – yet necessary – stances and entrusting their operation to the common sense of municipal ordinances, these areas situated by school premises must be indicated by appropriate signs and there "may be limited or excluded the circulation, parking or stopping of all or some categories of vehicles, at times and in ways to be defined". Instead, assuming courageous positions, these areas could become proper urban places where there is real educational intentionality of public spaces: places of participatory planning, educational experimentation, urban comfort, reception, places of permanent urbanity on the frame of the possibility to highlight true educational intentionality of the public spaces also envisaging active lifestyles as embodied habitus (Borgogni, 2020). In this light, principles and criteria for integrated planning of the spaces have to be described following a transdisciplinary reflection about the corporeality, the vicariances, the polysemy of the public spaces, and the sustainability of the cities organised around the moving body.

Author contributions

A.B.: conceptualization; investigation; writing (original draft preparation, review and editing).

V.A.: investigation (data analysis); writing (contribution in original draft preparation and review).

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