Children, policy and the built environment

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Working Paper No. 1
July 2010

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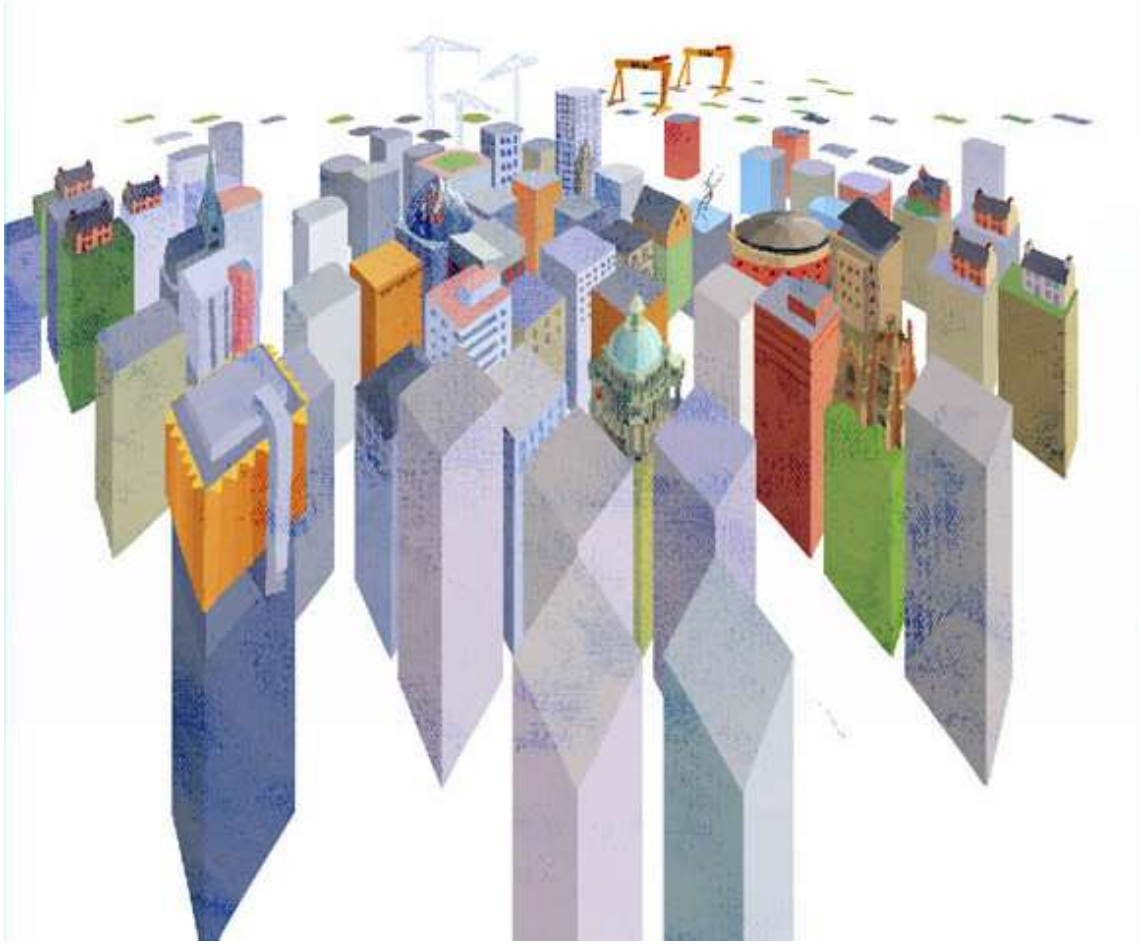
Children, policy and the built environment

Abstract: The Northern Ireland conflict produced an extensive literature on the effects of residential segregation on young people and the impact of prolonged exposure to violence on prejudicial and sectarian attitudes. This paper examines the experiences of children in post-conflict Belfast as economic change afforded new opportunities, at the same time as it excludes and regulates behaviour. Whilst the recession has affected the pace of urban restructuring, children's experiences of the 'new' city are differentiated by tenure, territory and spatial mobility. The paper suggests that child-blind planning policy has limited the multiple *affordances* that young people extract from the built environment and it concludes by setting out some implications for policy making. The analysis concludes by suggesting that class and place are becoming increasingly important determinants of children's territorial experiences in a city especially where territoriality and poverty intersect to produce deeper exclusionary processes.

Keywords: Children; Affordances; Segregation; Planning



Introduction

Post-war industrial restructuring, labour market shifts, suburbanisation and the rise of the car have reshaped children's experiences of home, neighbourhood and the contemporary city (Ward, 1978; Valentine, 2004). Children's environments have become institutionalised, dangerous and more regulated 'remnants left over from an adult world' (Spencer and Blades, 2006: 1). As few as 23% of parents in Britain describe their offspring as 'outdoor children' (Valentine, 1996: 211) and the Child Poverty Action Group (CPAG, 2009) recently ranked the UK 17th out of 29 European countries on housing and environmental conditions for children. Urban space has been de-humanised (Rissotto and Giuliani, 2006) and studies from Britain and Italy demonstrated how children have become less competent in negotiating public space (O'Brien et al, 2000). Car dependency, stranger danger and traffic risk have deprived children of 'autonomous movement' and restricted the development of their spatial skills (Tranter, 2006: 127). However, recent research also highlighted the role of schools in developing awareness of climate change, participation in recycling and on extending environmental consciousness to the wider familial network (Percy-Smith and Burns, 2009). Moreover, as children age their engagement with the environment becomes more complex and ambitious as they depart from more secure domestic and school habitats to explore a wider range of spaces with higher degrees of socialisation, discovery and risk (Jupp, 2007). How children use and relate to their physical world is clearly contingent and dynamic.

The Northern Ireland conflict also produced important research on the impact of violence on children. Work by psychologists drew on other ethnic societies to examine the direct and indirect effects of prolonged exposure to conflict and social segregation on children's attitudes and behaviours (Muldoon, 2004). The reproduction of prejudicial attitudes, formed at childhood, is evident in unchallenged intergenerational transfer of sectarianism, 'otherisation' and a preference for segregation (Cairns, 1987). Segregated residence, schools, service use and employment polarised communities, prolonged conflict and immobilised politics (Elliott, 2002). The geography of conflict and its impact on community interaction, interfacing and the tactics of avoidance have also been extensively researched (Shirlow and Murtagh, 2006). Research has drawn on a range of disciplines and methods but our understanding about how children use their environment and how their spatial view is mediated by territoriality and desegregation is less well developed.

This paper challenges the notion of a pervasive conflict regulating the lives of young people, producing inexorable segregation and self-containment among children. Many children use space in open interactive ways, they mix with other religions and races and gain cognitive advantage from the exploration of new places. However, they also tend to be the children of the wealthy and the emerging consumption class that has relocated to more secure and protected spaces in the 'post-conflict city'. Theoretically and empirically, the paper uses the concept of environmental *affordances* to better understand the everyday practices of children, albeit in a narrowly constructed range of contested environments. It draws on research in paired Catholic and Protestant schools: in an inner-city interface area in the east; and in south Belfast where economic, class and tenure restructuring has expanded mixed religion space. The analysis concludes by suggesting that class and place are becoming increasingly important determinants of children's territorial experiences in a city where the emergence from conflict has produced material winners and losers, with the latter caught in the trap of poverty and deepening segregation.

Children, policy and contested environments

Child-environment relations have attracted particular attention from educationalists and the multiple benefits that younger people gain from greater exposure to the public realm. Paiget pointed to distinct periods of cognitive development as children control their ability to construct spatial relations and produce changes in their conception of space (see Paiget and Inhelder, 1956). Matthews (1992) elaborated this work, identifying a more three dimensional approach to children's experiences of their surroundings centred on nativism, empiricism and constructivism. *Nativism* contends that the human is equipped with predetermined innate abilities to react and interact with the environment before they have any exposure to it, whereas *empiricists* argued that human behaviour and perception is developed by the external environment and actualised experiences. Finally, processes of identifying and organising information to make sense of reality, personal aspirations, opportunities and the constraints of neighbourhoods all work to *construct* individual representations of the city.

Barrett and Buchanan-Barrows (2005) identified four, more recent, shifts that have taken place in deciphering children's social cognition. First, they recognised that children do not always experience the environment first hand but are heavily influenced by filtered information from home, school and increasingly, the world of cyberspace (Holloway and Valentine, 2003). Second, children's comprehension of the environment and society is also subject to variation depending on the socio-cultural context of their

surroundings. Social class, economic status, identity and ethnicity are all factors which play a role in constructing social perception. Third, they highlighted a shift in methodology, implying that there are unobservable processes working in the environment which cannot be explained through verbal communication. These subconscious processes are only understood when children are asked to make judgements on the hypothetical scenarios that reveal their 'social thinking'. Fourth, societal cognition is often a product of strong emotional attachment with particular views, beliefs and identities that are inherent prior to exposure to the environment (Barrett and Buchanan-Barrows, 2005: 3-4).

Here, the analysis shifts to the idea of 'transaction' between children and place and the 'affordances of the environment or what it offers the animal, what it provides or furnishes, either for good or ill' (Gibson, 1979: 127). Gibson argued that individual actions and behaviour are the outcome of the physical content and social representation of the environment. While his approach was primarily concerned with the physical attributes of space, he introduced the notion of 'people-environment reciprocity'. Human-environment interaction added cultural significance and social meaning, with place also conditioning human behaviour. Clark and Uzzell (2006) furthered Gibson's ideas and investigated the concept of socio-environmental *affordances* as the opportunities or threats presented by the environment claiming that 'the individual and the environment are intricately bound and neither can be understood without the inclusion of the other' (Clark and Uzzell, 2006: 178). They compiled a scale to evaluate different places for what they *afford* including: a place to be active; enjoy; feel safe; avoid others; and meet new people. By exploring a range of environments such as the home, neighbourhood, school and the city centre they revealed that each unique setting offered differing scales of social interaction, retreat and functional purpose. The results of the study indicated that all environments supported varying levels of interactive and retreat behaviour but more crucially, they identified that the level of affordances experienced was age dependant.

The concept of affordances was used by Kytta (2006) to form the *Bullerby Model*, a hypothetical tool for assessing the child-friendliness of the environment. The model was concerned with assessing mobility levels and the degree of 'actualised affordances' or those which are actively perceived and utilised by children (Kytta, 2006: 146). Here, affordances were divided into three sub-categories of promoted, constrained and free action, that were then applied to four hypothetical child environments, named Bullerby, Wasteland, Cell and Glasshouse. Bullerby was the

ultimate child friendly environment with high mobility enabling the discovery of a wealth of affordances with minimal constraining factors. The Wasteland was also characterised with high mobility, however the futile character of the environment diminished all possibilities for actualised affordances. The most undesirable place was the Cell, with more movement restrictions and the 'inwardness' of the environment reducing potential affordances. Although the Glasshouse possessed an abundance of affordances, the force of negative aspects, such as danger presented by the environment, overtake and devalue its positive attributes. The notion that the environment is transacted, in which children extract affordances of different types, levels and qualities is both conceptually and empirically powerful, especially where *space* is embedded with different risks and meanings. The argument here is that technically driven land use policy fails to appreciate the dynamic nature of these affordances and how they matter to the ways in which children interact with their neighbourhood.

Planning policy and children

> The failure of an urban environment can be measured in direct proportion to the number of playgrounds (Ward, 1978: 87).

Gleeson and Sipe (2006) pointed out that planning infrastructure, especially high density roads or what they refer to as 'traffic sewers' have marginalised children, even in their own neighbourhoods. Moreover, the densification of housing in packed city centres squeezes out play spaces and family friendly services, intensifies traffic and produces narrow housing forms suitable only 'for the childless and the artless' (Gleeson, 2009: 1275). Dissolving the suburbs to create more sustainable cities shrinks the stock of built and natural assets that children can safely use and forces parents to 'bubble wrap' them in more secure and segregated spaces (Malone, 2007: 513). Planning education has also traditionally failed to appreciate the role of actualised affordances in understanding how children use space and what they value most about their neighbourhood. Matthews (1992) claimed that past planning provisions have taken the form of tokenism, failing to meet the material needs and actual aspirations of children. He claimed that the lack of opportunity and limited functional purpose of playgrounds 'isolates children from large scale society and contributes to the process of childhood ghettoisation' (Matthews, 1992: 223).

Frank (2006) identified four barriers to youth participation in planning: developmental; vulnerable; legal; and romantic. The developmental view holds that children lack the necessary knowledge and skills to participate in 'sophisticated' planning arenas. In the

vulnerable view, they are seen as dependent and in need of adult support in order to protect their rights. The legal view marginalises children and allocates them partial citizen status, because *legally*, they do hold the full rights and responsibilities of adults. Finally, the romantic view ascribes children with values and capabilities distinct from adults and with more incisive participatory methods, these can be revealed in land use planning. Machemer et al (2008) argued that effective participatory methods are most likely to meaningfully engage children, their likes and dislikes and how they evaluate development proposals. Moreover, children are capable, resourceful and imaginative 'future shapers' displaying realism and fantasy to re-imagine the spaces they use and flow though (Freeman and Aitken-Rose, 2005). In this respect, Walsh (2006) similarly proposed a number of planning principles and guidelines that appreciate the diversity of children's needs claiming that 'Children have unlimited imagination - town planners and developers should have equal imagination, or make way for people who do' (Walsh, 2006: 149).

Knowles-Yanez (2005) identified four distinct approaches to children's participation in planning based on: scholarly; practice; educational; and rights-based methods. Using scholarly frameworks researchers have tested and evaluated the concepts of mental mapping, dialogue, journal writing and community workshops. They challenged the presumption that children lack the necessary competencies showing that they have strong analytical and communicative skills in urban design and management. 'Participation through practice' which involves public agencies and consultation with children has also produced viable plans and designs. Exemplars illustrate the benefits of involving all citizens in the design of community gardens, play environments and even in setting urban design principles such as *The Children's Manifesto: How to Win Back our Cities* (Knowles-Yanez, 2005). However, bureaucratic routines, professional values and the project specific nature of these efforts are important obstacles to sustaining participation from the local project to the national level.

Francis and Lorenzo (2002) were also concerned with categorising participatory methods in a historical account of children's involvement in urban planning. The earliest of these was characterised by romanticism with 'children as planners' providing tokenistic opportunities to engage the planning process. Later, advocacy emerged whereby more radically planners pursued children's ideas but later these were largely overruled by technocratic planning criteria. Subsequently a needs-based approach evolved using social science methods in an attempt to uncover the specific requirements of children's environments. An emphasis was then placed on education,

learning and rights based approaches and finally, Francis and Lorenzo identified a 'proactive paradigm' based on a process of communication and negotiation between adults and children. The process enables the exchange of ideas between the two in order to restore childhood environments and 'make cities better places for all' (Francis and Lorenzo, 2006: 234). Thus, the *Characteristics of Better Cities for Children* were centred on:

- Accessibility;
- Mixed use and mixed users;
- Sociability;
- Small, feasible, flexible;
- Natural, environmentally healthy, growing and in movement;
- Urban and place identity; and
- Places and opportunities for participation.

The Northern Ireland conflict and children

There is also a long history of research on the impact of the Troubles on children in Northern Ireland, especially by psychologists (Niens et al, 2003) and educationalists, who highlighted the impact of segregated schooling on the reproduction of prejudicial attitudes (Trew, 2004). However, Cummings et al (2009: 34) argued that we have 'counted enough symptoms' and the impetus now is to understand the processes involved in the ethno-social exclusion of vulnerable children. These include macro-level factors such as political tensions and cultural norms but also include the 'exosystem' in which community and neighbourhood effects are variable determinants of the experiences of violence (Cummings et al, 2009: 20). Questions have thus been raised about the validity of the methods and their preoccupation with categorisation and quantification. Connolly and Healy (2004) for example, argued for a more qualitative and interpretative understanding of how children's attitudes are constructed and behaviours enacted. Their research on 3-11 year olds showed how parental and community contexts, rather than their experiences of the 'other', shape the formation of prejudicial attitudes. Children in highly segregated communities that experienced a high degree of conflict developed strong in-group prejudice and out-group indifference, even as young as 3 years of age. Moreover, in drawing upon the notion of an ethnic habitus, their work showed how Protestant and Catholic children (3-6) were 'already acquiring the cultural dispositions and habits of their respective groups even though, at the earlier ages, they have little awareness of what these dispositions represent' (Connolly et al, 2009: 217).

Connolly (2009) argued that intergenerational transfer of stereotypes, prejudices and fears thus explained the violent behaviour among young people, especially in interfaces between Catholic and Protestant communities. The emergence of gang subculture, the withdrawal of paramilitary surveillance, poor educational attainment and fatalism of the most disadvantaged teenagers' further eroded civility and an interest in shared living (ICR, 2005). The ICR survey of 2,486 young people, aged 14-17 years in eleven post primary schools in North Belfast, showed that most young people (82%) had experience of violence and disorder. The most commonly reported incident was fighting between members of the Catholic and Protestant communities (61%), followed by rioting with the police (50%). However, these processes are not confined to Belfast and in an extensive study of 13-17 year olds, Kintrea et al (2008) found pronounced territoriality formed as 'a cultural expectation, as passed down to young people from older generations and often had deep historical roots' (Kintrea et al, 2008: 4). For Leonard (2006) the experiences of living in highly territorialised space and lack of engagement with the 'other' and opportunities in the wider urban economy remains under theorised in accounts of children's, prejudices and fears. The next section explores this connection between children and their use of place to further explore the nature of segregation on post-conflict Belfast.

Research design

The research was conducted with 11 year old children in two paired Primary schools in east and south Belfast and involved a total of 88 pupils (School A=12; School B=33; School C=25; and School D=18 pupils). School and pupil recruitment followed ethical guidelines with teacher briefing, parental permission and formal post-research briefing used to ensure the project met with their needs (Bell, 2008). A pilot study was held in non-participating school, especially to ensure comprehension of the research instrument to 11 year old children (Morrow, 2008). The research involved three separate exercises including: an open group discussion; questionnaire survey based on *affordances;* and a mental mapping exercise. The environmental affordances survey was based on the work of Clark and Uzzell (2006) and Kytta (2004) and the list of 15 variables used in the questionnaire is shown in table 1 (along with the mean score for each school). Each pupil was asked to assess three pictorial environments from their locality reflecting: a formal parkland or playground; the nearest arterial route; and the nearest informal open space to the school site. A three point ordinal scale containing agree (1), unsure (2) and disagree (3) responses were offered and pupils asked which best matched their opinion of each place against the affordance variable. A lower mean

score (closer to 1) therefore indicates agreement with the statement whilst a higher average indicates stronger disagreement. In the final exercise each pupil was asked to draw a map of their area, which drawing on the work of Percy-Smith and Thomas (2009), provided an accessible and enjoyable method to reveal the 'everyday' of childhood movement within and perceptions of their built environment.

School A draws its pupils from mainly Protestant east Belfast and the area experiences a high degree of social disadvantage indicated by the 73% of the 100 enrolled students who are entitled to free school meals and the 37% who have special educational needs (DENI, 2008). School inspection reports have identified long term absence, lower than average standards in English and Mathematics and social unrest as systemic problems (DENI, 2005a). Inner-east Belfast has experienced significant de-industrialisation especially in shipbuilding, rope making and tobacco and the school is partly bounded by a peace wall with a Catholic enclave of about 3,000 people. School B is in the heart of the Catholic enclave with an enrollment of 297 pupils but experiences the same effects of social unrest, paramilitary activity and continuing interface violence (DENI, 2005b). Again, there is a concentration of social disadvantage with 73% of pupils entitled to free school meals and 39% with special educational needs (DENI, 2008).

The post-conflict period saw a rapid increase in employment, especially in the high value end of the economy, a reduction in unemployment and a sustained rise in regional Gross Value Added (O'Hearn, 2008). Fair employment legislation, access to third level education, the expansion of the public sector and the industrial shift to the service economy expanded the Catholic middle-class both during and after the conflict (Aughey, 2005). This more confident, better resourced and more mobile class asserted themselves in traditionally wealthy neighbourhoods to the south of the city accompanied by new schools, churches and Gaelic sporting and cultural facilities. School C is a Catholic Primary school with 415 pupils of whom just 10% receive school meals (DENI, 2008). School D is within the University precinct in south Belfast and has a smaller, mainly Protestant enrollment of 191 pupils. The school also attracts pupils from a wider range of multi-cultural backgrounds, linked in part, to the presence of the University campus and the concentration of private rented housing.

Data analysis

Affordances

The analysis for school A shows that the park scored strongly for activity, entertainment and enjoyment but the open space was also valued for its capacity for exploration, self-

expression and socialization (table 1). The area has a number of derelict redevelopment sites, especially on the main arterial route and the unattractiveness of these places (1.9) and weak entertainment value (1.5) were emphasised along with the limited opportunities for retreat in avoiding parents (1.5) or other people (1.7). Few of the sites offered a retreat function although children were able to differentiate between the immediate neighbourhood as segregated and the formal Victorian park as a place where they may encounter, at least, adults from the other religion. In the group discussion children reveal that they would walk more than 2 miles, unsupervised, to the city centre or other neighbourhoods in east Belfast. Few felt that the peace line was a barrier to their use of space and more were concerned about the volume of traffic, especially as they crossed a major arterial route to access the park. However, nearly all children said that they had experienced rioting at the interface and were engaged in conflict with children from the Catholic neighbourhood, who some were able to name.

The development of the economy in the last decade fuelled and was, in part, fuelled by a property boom and in particular the expansion of gentrified neighbouhoods near the city centre and a middle-class desire for residences closer to work, entertainment and consumption sites. Within the school A catchment, a derelict factory was recently redeveloped as a complex of 40 apartments, a public corporation swimming pool converted to a private heath club and the former shipyard, which once employed 35,000 people, is now the city's flagship waterfront scheme. In the *revanchist* city the middle-class reclaim these spaces for their own use, marginalising or excluding traditional working-class communities and their children (Flint, 2009). The children in school A complained that they 'were 'chased out of the [apartment development] by the caretaker' and could not 'use the *swimmers* [public pool] anymore'. The neo-liberal expansion, a comparatively new driver of post-conflict modernisation, increasingly creates 'toxic' environments for children where their space is reduced, regulated and reclaimed in the interest of property (Gleeson, 2006).

Table 1 Affordances analysis for the four Schools (Mean score)

Area	Looks nice	Be active	Be enter-tained	Enjoy myself	Feel I belong	Same religion	Feel safe	Be on my own	Away from parents	Avoid others	Be upset	Same age	Do my own thing	Meet new people	Like to explore
SCHOOL A															
Park	1.1	1.2	1.1	1.1	1.3	1.6	1.1	1.6	1.3	1.9	1.5	1.3	1.1	1.1	1.4
Road	1.1	1.6	1.5	1.4	1.5	1.3	1.4	1.5	1.7	1.6	1.9	1.4	1.4	1.5	1.5
Open	1.9	1.2	1.5	1.4	1.4	1.2	1.4	1.4	1.5	1.7	1.4	1.2	1.4	1.3	1.4
SCHOOL B															
Park	1.2	1.0	1.0	1.0	1.2	1.2	1.1	1.3	1.3	1.8	1.4	1.3	1.2	1.4	1.6
Road	1.1	1.1	1.1	1.1	1.2	1.2	1.6	1.5	1.3	1.7	1.7	1.3	1.2	1.3	1.7
Open	1.7	1.6	1.7	1.7	1.5	1.2	1.6	1.7	1.4	1.8	1.8	1.2	1.3	1.7	2.0
SCHOOL C															
Park	1.0	1.1	1.2	1.2	1.5	2.0	1.6	2.1	2.0	2.0	2.4	1.4	1.4	1.4	1.5
Road	1.8	1.7	2.0	2.0	2.0	1.9	2.0	2.0	2.2	2.3	2.5	2.0	2.0	1.8	2.0
Open	1.0	1.0	1.0	1.0	1.2	1.5	1.3	1.9	1.6	2.0	2.1	1.2	1.1	1.1	1.2
SCHOOL D															
Park	1.0	1.1	1.1	1.0	1.4	1.7	1.2	1.7	2.0	1.8	1.7	1.3	1.3	1.2	1.1
Road	2.1	2.1	1.9	1.8	2.1	1.7	1.9	2.2	2.3	2.3	2.4	1.9	1.9	1.9	2.3
Open	1.2	1.2	1.2	1.3	1.6	1.9	1.4	1.8	1.9	2.2	1.9	1.7	1.4	1.6	1.4

In school B, the interface was a more significant issue. When asked what they disliked about their neighbourhood one responded stated 'being surrounded by walls' and only 6 out of the 33 pupils said they wanted to live there when they grow up. Given the enclaved nature of the neighbourhood and the presence of the peace wall, a high degree of fear was persistent in their movement decisions: 'We can't go up the road, only down because the prods [Protestants] are there'. Mobility outside the area was limited and dangerous, with 'symbolic threats' in the form of territorial markers, such as sectarian graffiti also regulating and restricting behaviours (Tausch et al, 2007: 53). The physical space open to children in the neighbourhood was comparatively limited with a small playground offering most value for activity, entertainment and mixing. The open space scored weakly on looking nice (1.7), as a place to be entertained (1.7) or to socialise with others (1.7). Few spaces offered exploration, avoidance or retreat functions with the open space scoring lowly across most variables. The open space site is bounded on one side by a 3 metre high peace line and given its peripheral position, has been the site of rioting, especially between teenagers from both neighbourhoods. As with school A, all the children had witnessed or claimed to have participated in rioting at the interface and again, were able to name some of their peers from school A. The park offered some opportunities to 'do my own thing' (1.2) but the open space had limited chances for exploration (2.0), to be upset (1.8) or to avoid others (1.8).

School C drew pupils from a wider geography and the group discussion revealed a deeper, albeit car borne, understanding of the rest of the city. Here, children valued the appearance of their neighbourhood compared with other areas, which looked 'trampy', 'scary' or 'tough'. Whilst strict comparisons between place types are clearly invidious the discussion and survey showed that the pupils in school C had better access to places that were attractive, active and where they could mix with other religions. For instance, the mean for open space as 'looking nice' was 1.9 and 1.7 for school A and B but 1.0 and 1.2 for C and D respectively. The open space (1.0) was regarded as better entertainment space (1.0) and more enjoyable (1.0) by the pupils of school C than any of the other schools: 'it's great here, there's lots to do and places to go'. However, few of the sites strong offered retreat or repair opportunities although the open space afforded an opportunity to get away from parental control whilst feeling safe. The group discussion suggested that the open space was well populated, especially by adults and family groups as well as younger adults enhancing the pupil's sense of security. However, they also noted a temporal shift as in the evenings, older teenager groups created a greater sense of threat and anxiety. The pupils of school C seemed to experience stronger parental control and few would move outside their neighbourhood or even onto the arterial route unsupervised. Again, the open space was regarded as attractive (1.2) and entertaining (1.2), outscoring both school A and B. For Weller and Bruegel (2009: 641) this regulation can also be damaging and 'if parents are fearful of the surrounding

environment, then children are less likely to become immersed in local networks and familiar with local groups'. Here, Weller and Bruegel argued that the relationship that parents have with the wider spatial economy has direct consequences for the experiences and perceptions of their children. The reshaping of space and opportunity and how children are introduced to a wider set of urban experiences matters to their adult behaviours, especially around labour market and social mobility. Again, the wider socio-economic context of ageing matters to the most excluded children.

Significantly, the pupils of school C and D were most likely to identify these sites as places were they were likely to meet people from different religions. The school that was most isolated in terms of religious mixing was clearly school B, with a mean of 1.2 for all three sites studied. Indeed school A and B revealed lower mean scores than C and D for all the area types assessed. This is especially the case for the use of open space where the mean for school C and D was 1.5 and 1.9 respectively compared with 1.2 for both C and D on the 'same religion' variable. Similarly, both school C and D had access to an arterial route that was more mixed (1.9 and 1.7) than either school A (1.3) or B (1.2).

School D is in a more built-up area that has recently been redesigned as a home zone. Street narrowing, staggering and closure, road ramps, safety signage and a 20mph speed limit have made the area more child-friendly. As with school C, pupils enjoy a wider range of open spaces, play facilities and formal and informal parks: 'There are loads of parks and the playground is great. The park is shut at night and we have to stop playing football'. These assets are well used and as the table shows, afford a sense of belonging, entertainment and enjoyment opportunities. The main service road is one of the busiest in the city and scores badly on the index. However, open space and parkland also score weakly on avoidance and retreat which Valentine (1996) shows are essential to children to this age group.

Mental mapping

Mental mapping, especially to determine children's territorial behaviour, has been extensively used in geography and social profiling (Gould and White, 1974; Kintrea et al, 2008). Halseth and Doddridge (2000) also demonstrated that children's mapping can represent places that are important to them and how they interact and use their neighbourhood. The exercise conducted in the four schools followed a methodology designed by a California based planning department (CRCPD, 2008), which used mapping techniques to determine children's use and understanding of the built environment. The exercise was designed so that children could express their own personal cognitive map of the neighbourhood without imposing strict guidelines on the content or presentation.

> Cognitive maps are mental representations which we construct about the world around use ... composites created from the continual flow of information we receive ... built up over time and from our experiences (Halseth and Doddridge, 2000: 567).

The interpretation of the images drew upon analysis of cognitive maps conducted by Matthews (1984), Halseth and Doddridge (2000) and Lynch's (1960) topology of urban elements. A simple content count was used to identify the main features in the maps and these are summarised in table 2 along with the per capita ratio for each school. *Edge roads* refer to the main arterial routes and roads that delineate the boundary of the neighbourhood. *Nodal roads* comprise mainly of residential streets and areas of pedestrian interaction, whilst *functional* uses refer to homes, schools, shops, youth clubs and other significant place identifiers. *Transport* variables include traffic volume, speed reduction measures, bus stops and roundabouts and *recreation* refers to playgrounds and public spaces. *Personal* attributes measure references to home, family, friends and the spatial relationships between them and *obstacles* to hazards affecting their use of their neighbourhood. Here, references to peace walls were recorded separately.

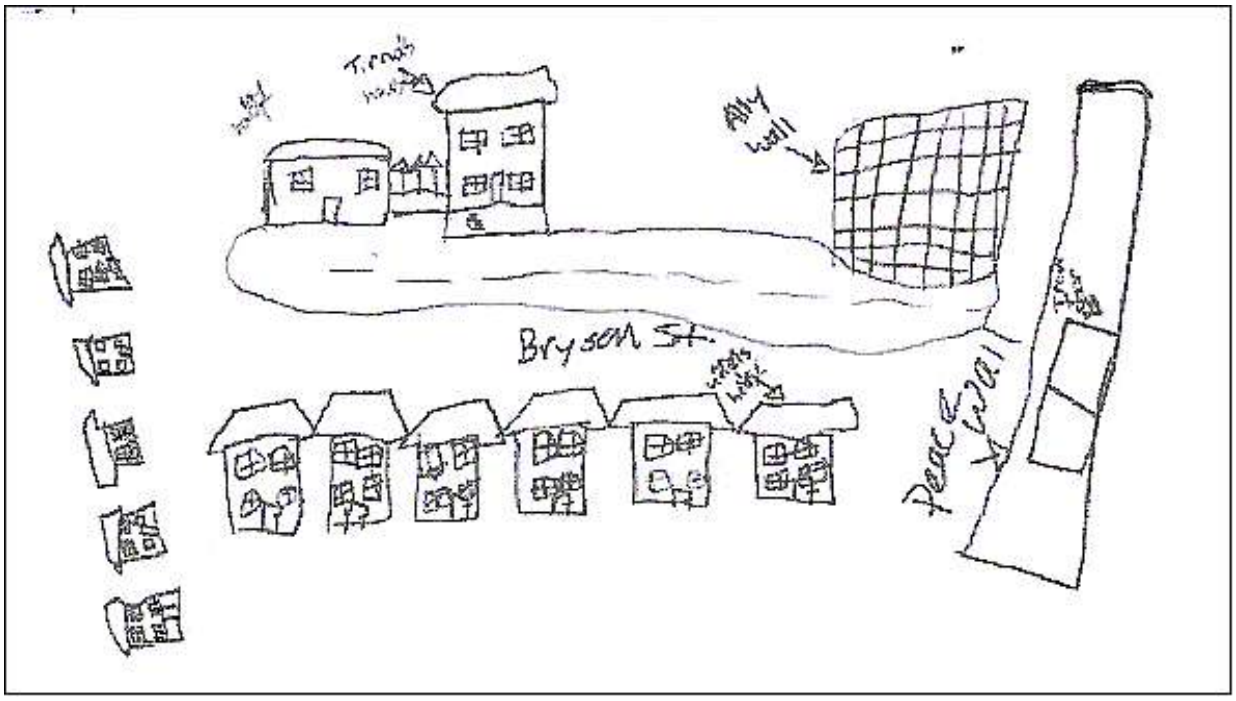
Table 2 Content analysis of children's maps

School	**A**		**B**		**C**		**D**	
Elements	**Total**	**Ratio**	**Total**	**Ratio**	**Total**	**Ratio**	**Total**	**Ratio**
Edge Roads	15	1.25	21	0.68	28	1.67	3	0.17
Nodal Roads	33	2.75	23	0.74	41	1.71	12	0.67
Functional	31	2.58	65	2.10	61	2.54	32	1.78
Transport	4	0.33	8	0.26	10	0.42	5	0.28
Recreation	2	0.16	35	1.13	27	1.13	18	1.00
Personal	12	1.00	22	0.71	30	1.25	13	0.72
Obstacles	3	0.25	7	0.23	6	0.25	9	0.50
Peace Walls	0	0	6	0.19	0	0	0	0

The maps for the two east Belfast schools are especially interesting for their lack of acknowledgement of the 'others' neighbourhood. The two schools had participated in an Educational for Mutual Understanding (EMU) programme designed to address sectarianism and prejudice between segregated schools. This initiative was terminated because of repeated violence, parental pressure and a risk assessment, although both schools were keen to recommence contact when it was practicable to do so. The maps for school A were dominated by infrastructure and institutional land uses. The impact of the road network on their experiences of the built environment is especially prominent. Edge roads or main arterial routes were identified in 25 maps and nodal roads 33 times. There were comparatively few references to recreational facilities (2) in school A. The diagram below is taken from school B and highlights the importance attached to the peace line and other

physical containments such as the ‘alley wall’. Six pupils identified the interface in their map and perhaps due to the level of enclosure, much is made of the available recreation sites within the neighbourhood (35 items).

Figure 1 School B pupil analysis of Peace Wall



Pupils in school C were most likely to map personal attributes such as home and association with friends and transport networks. Again, this is an area traversed by arterial routes and major traffic junctions and like school A, edge roads feature strongly in the diagrams (28). These are also picked up in school D where a central position is given to the park (figure 2). Recreational (18) and personal attributes (13) were frequently mapped reinforcing the comparative availability of high quality parks, playgrounds and open space in the south of the city.

Figure 2 School D pupil analysis of urban park facility

This research is clearly limited in terms of the ages, numbers, schools and neighbourhoods examined. However, it indicates a relationship between ethno-religious segregation and desegregation in mediating childhood experiences of the built environment. Research by the Northern Ireland Housing Executive (2007) identified the interplay between class, tenure restructuring and the creation and maintenance of mixed religion neighbourhoods. Their research examined the socio-economic and demographic profile of mixed (non-religiously segregated) electoral wards in Northern Ireland and using Principal Components Analysis, identified a cluster of high status neighborhoods in mid- and suburban south Belfast. It was noted in the analysis of school C and D that the area has a strong concentration of urban parks, high capacity public transport corridors, the main University campus and a comparatively attractive public realm protected by a number of Conservation Areas and Areas of Townscape Character (ATCs). Gentrification, gating and studentification are concentrated in a narrow geography reproducing a mixed, middle-class habitus increasingly removed from the experiences of sectarianism and segregation. It is not possible to evaluate children's socio-environmental affordances without understanding tenure and class restructuring and the effect that both have on the formation of highly differentiated spatial

experiences. In the post-ceasefire decade middle-class disaffiliation, new forms of *social* segregation and spectacular house price increases have worked to displace or exclude working class communities. Survey work by the Northern Ireland Housing Executive (2007) showed that the area is increasingly populated by a young, professional, tertiary educated and disproportionately Catholic population. Both Catholics and Protestants display inherently less sectarian attitudes, more multiple identities, a preference for consumption lifestyles and disengagement from politics. The pupils and parents of school C and D have enjoyed the benefits of this *Bullerby* world, with the assets, mobility and comparative security that comes with elite neighbourhood living.

A twin-speed city has emerged in which interfacing, deprivation and resource competition have increased in disadvantaged at the same time as wealth has propelled gentrification in the south and even on elite sites in the east. Enclaving has reduced the meaningful affordances that the pupils of school B extract from their *Cell*-like world. More than this, they are increasingly disconnected from the opportunities enjoyed in the south and in particular, in the new spatial economy emerging on the back of political stability. They are not likely to eventually find jobs in their neighbourhood and their disconnectedness reduces their experiences of new sites of employment, education and leisure.

However, the disadvantage of immobility is not just experienced in Cell neighbourhoods. For Protestant school children in School A, their wider opportunity sites are being slowly eroded. The shipyard, which once afforded guaranteed employment, is a major property project and we saw how assets, such as the municipal swimming pool, have been privatised to service the need of a new apartment population taking advantage of proximity to the city centre and transport networks. The area is increasingly sliced by new roads and railways servicing a commuter class and by the city's airport, which recent research has shown has a negative effect on children's mental health, concentration levels and school performance. Eighteen Primary schools in east Belfast stated that they were concerned about the impact of aircraft noise on children (City Airport Watch, 2008). They have fewer constraints than their Catholic peers but their environment and experiences are increasingly regulated by economic interests spurred on by very uneven post-conflict growth.

Conclusions and policy implications

The planning profession and crucially planning education has played scant attention to the behaviours reported in this paper. As we have seen, planners tend to bureauractise children's rights and roles, respond in formal ways, usually with playgrounds and increasingly ignore or devalue their voice in consultation processes. Yet in Northern Ireland, at least, children are a legally defined Equality group under Section 75 of the Northern Ireland Act

(that was introduced after the Belfast Peace Agreement), there is a Children's Commissioner and an Inter-departmental Working Group on *Promoting Social Inclusion for Children*. These work in fairly self-contained circuits, valuing knowledge and skills relevant to each arena. Professional values and routines have left limited room for more engaged models of participatory practice with children and equality law has never been used to assert children's rights in planning, urban policy or housing management. In Britain, regional *skills centres* that support the development and maintenance of sustainable communities stressed the interdisciplinary nature of spatial change, urban regeneration and place management. Knowledge, competence and learning are placed at the heart of the inclusion of young people in place making (Peel, 2005). The Homes and Community Academy has developed dedicated resources on children and young people with best practice exemplars, research and guidance on a range of topics related to the built environment (Leyshon and Fish, 2009). Northern Ireland has no equivalent, yet the case for the need to understand the complex relationship between children, conflict and place has been made, albeit partially, in this study. Further research is required into a wider range of demographic cohorts; how young people mix and contest neutral sites; the role of recreational violence and deepening territorial conflict on an intra- and inter-community basis; and how drugs, traditionally policed out of working-class areas by paramilitaries are deepening the exclusion of some young people. The strength of the regional skills centres is, in part, their 'wholesaler' function of sharing information and skills within and between professions, challenging disciplinarity and providing support to Universities and practitioners to engage a more integrated understanding of the built environment.

However, re-skilling professionals is unlikely, on its own, to address the shrinking opportunities and resources available to communities in inner-east Belfast. The multi-layered disconnections from labour markets, educational circuits and opportunity sites further marginalise the poorest children and young people. Initiatives such as Demand Responsive Transport, community transport and innovative bike and scooter rentals have opened opportunities for teenage school leavers to get into training and employment (North Belfast Partnership, 2008). The social economy has developed as an arena where services with and for young people and children have provided a viable alternative to state and private markets (Amin at al, 2002). Intermediate Labour Markets and community enterprises in particular, highlighted the potential to connect young Protestant and Catholics in recognition of their common exclusions and to equip them for work and decent quality jobs. Funding from the EU PEACE II Programme supported the expansion of the sector, the trading capacity of groups offering services for children and routes into employment for the most hard to reach young people (Lloyd, 2006). The giddy excitement that greeted the arrival of global property

investment in Northern Ireland convinced about safety and risk is not likely to retrench, even with the exposed faults of this policy in the last 2 years.

This also suggests a challenge to the academy, not least in Northern Ireland, where disciplinarity has reinforced a form of methodological segregation, especially in children's research. The procedural methodological bias within planning might draw attention to the possibilities of normative research in which children's rights are placed within the policy arena. Developing, implementing and evaluating the planning curriculum for children; defining the skills set needed to support a more equality aware profession; and transferring practices that embed children's rights in development decisions all offer opportunities for transdisciplinary working. Engaged models of participatory practice in planning and urban policy can learn much from research that offers a deeper insight and more nuanced understandings of children's exclusions and aspirations. Simply displacing one form of segregation with another in Northern Ireland is unlikely to embed a just and sustainable peace across either place or generations.

Acknowledgements

We would like to thank the pupils, parents and teachers of the four participating schools in this research and are grateful for the comments of our colleagues on an earlier draft of this paper.

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