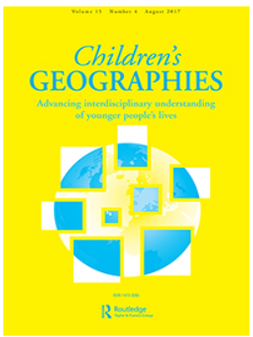

Children's Geographies

ISSN: 1473-3285 (Print) 1473-3277 (Online) Journal homepage: http://www.tandfonline.com/loi/cchg20

If you are not one of them you feel out of place: understanding divisions in a Northern Irish town

Stephen Roulston, Ulf Hansson, Sally Cook & Paul McKenzie

To cite this article: Stephen Roulston, Ulf Hansson, Sally Cook & Paul McKenzie (2017) If you are not one of them you feel out of place: understanding divisions in a Northern Irish town, Children's Geographies, 15:4, 452-465, DOI: 10.1080/14733285.2016.1271943

To link to this article: https://doi.org/10.1080/14733285.2016.1271943

CHILDREN'S GEOGRAPHIES, 2017
VOL. 15, NO. 4, 452–465
http://dx.doi.org/10.1080/14733285.2016.1271943

Routledge
Taylor & Francis Group

If you are not one of them you feel out of place: understanding divisions in a Northern Irish town

Stephen Roulston [a], Ulf Hansson[a], Sally Cook [b] and Paul McKenzie [b]

[a]School of Education, Ulster University, Coleraine, UK; [b]School of Geography and Environmental Sciences, Ulster University, Coleraine, UK

ABSTRACT

This paper examines and reflects on the use of Global Positioning System (GPS) tracking devices as a method to understand and analyse young people's everyday movement in Northern Ireland, a divided society emerging from conflict. The paper also seeks to contribute to the extensive body of literature which already exists on young people's geographies and movements within the Northern Ireland context. We highlight how the use of GPS together with more traditional methods gives us considerable insights of movements of young people in Northern Ireland and sheds light on the communal divisions in one town in Northern Ireland, Coleraine. We argue that the use of a GPS methodology significantly adds to the understanding of young people's movements and geographies, particularly in a post-conflict context where notions of place and territory have particular significance.

ARTICLE HISTORY
Received 26 April 2016
Accepted 16 November 2016

KEYWORDS
GPS; Northern Ireland; division; young people; conflict

Introduction

The divided nature of Northern Irish society and in particular its impact on the movement of young people has been highlighted by a range of research. However, while research elsewhere has utilised modern technologies such as Global Positioning Systems (GPS) to better understand young people's geographies, we note the limited use of such technology in the Northern Ireland context. We seek to demonstrate that combining GPS with more traditional methods provides considerable insights of movements of young people in Northern Ireland by illuminating the communal divisions in one town in Northern Ireland, Coleraine. We will argue that the use of GPS methodology significantly adds to the understanding of young people's movements and geographies, particularly in a post-conflict context where notions of place and territory have particular significance.

Segregation and division

After a 30-year period of civil unrest in which almost 3500 people were killed, known colloquially as the 'Troubles', the signing of an Agreement in 1998 promised the beginning of a new era in Northern Ireland. However, even the name of the agreement is contested. Nationalists, largely Catholics, tend to refer to it as the 'Good Friday Agreement', while Unionists, generally Protestants, prefer the 'Belfast Agreement' or the 'Stormont Agreement' (Morgan 2000, 6). The 'constructive ambiguity' (Dixon 2002, 736) integral to this agreement has meant that some policies that emerged from it continue to struggle to get consensus. The Northern Ireland government published a policy paper: 'A Shared Future' (OFMDFM 2005) which explicitly committed the promotion of sharing between the

CONTACT Stephen Roulston s.roulston@ulster.ac.uk

communities in Northern Ireland: 'Separate but equal is not an option. Parallel living and the provision of parallel services are unsustainable both morally and economically' (OFMDFM 2005, Section 1.4).

Aspects of the Shared Future policy document have been criticised (Graham and Nash 2006; Komarova 2008), and Nolan (2013) noted the delay in its production and the subsequent 'sidelining' of the document by the two governing parties (DUP and Sinn Féin). Nonetheless, the rhetoric of sharing remains a government theme in Northern Ireland and there seems to be a continued recognition of the need to create a 'shared future'. In 2013, the Northern Ireland Executive produced 'Together: Building a United Community'. While a 'much less ambitious document than the Shared Futures document it superseded' (Nolan 2013, 11), it does articulate a commitment to 'building a united and shared society' with 'all areas … open and accessible to everyone' (OFMDFM 2013, 5). While the Good Friday/Belfast Agreement may have signalled the end of the large-scale conflict, there are still divisions, with many communities residing and being schooled separately. The major social divide in Northern Ireland has been characterised as ethno-sectarian, often reduced to 'Protestant' and 'Catholic', and this, alongside other social cleavages such as gender, age and family income may impact on the mobility of people. Much of the social science research into Northern Ireland's divided society has been concentrated around the highly segregated communities of Belfast but, even in smaller settlements, divisions of space into shared and contested areas have been noted (Bell, Jarman, and Harvey 2010; Leonard and McKnight 2010; Roulston and Young 2013). Some have argued a pressing need to investigate division and poverty across multiple spatial scales, and not just at the city scale (Massey and Fischer 2003). Lichter, Parisi, and Taquino (2012) highlighted an increase in both segregation and poverty within small towns and rural communities across America, which has significant implications for public policy. Given that only one-third of the Northern Ireland population lives in towns and cities over 50,000 people, a focus on smaller settlements is certainly warranted.

Considerable research after the signing of the Belfast/Good Friday Agreement suggests that the level of residential segregation has not decreased (Shirlow and Murtagh 2006; Hughes et al. 2007). Even where research appears to indicate a slight decrease in segregation (Shuttleworth and Lloyd 2009, 2013), it is acknowledged that 'questions remain about … the extent to which there is really more cross-community interaction' (Shuttleworth and Lloyd 2013, 61). In the case of Belfast, Komarova (2008) cites City Council figures which point to more than 50% of residents living in wards that are more than 90% Protestant or more than 90% Catholic. Whether in Belfast or in more rural parts of Northern Ireland, Catholics and Protestants are reluctant to enter the other groups' areas to meet, form friendship groups or to socialise, and as a consequence interaction may be much reduced (Hamilton et al. 2008). This 'discontinuity in the residential and social fabric' (Boal 2008, 330) is very apparent to those who inhabit the landscape in Northern Ireland. Leonard and McKnight highlight 'episodic use of space' (2015, 404) when discussing Belfast City centre's use for cultural events traditionally celebrated by one community or the other. This is particularly evident in the St Patrick's Day Parade, largely attended by Catholics, and in the Orange parades on 12th July each year, which are largely attended by Protestants. Thus, while non-residential space in Northern Ireland's settlements may appear shared in that they are apparently open to both communities, they are in fact often used by both but at separate times. Alternatively, both communities can use it simultaneously, but without 'sharing' taking place. Thus, even if this 'co-use' of space is not episodic but contemporaneous, there may be limited sharing (Roulston and Young 2013).

Young people in Northern Ireland – navigating difference

With regard to young people, division also manifests itself with regard to education, as 90% of school aged children are taught in schools overwhelmingly with co-religionists and where the wearing of a school uniform might be taken as a fairly reliable indicator of belonging to one

community or the other (Hamilton et al. 2008). Similarly, young people, almost 20 years after the Good Friday/Belfast Agreement continue to experience sectarianism in their daily lives – to and from school, in town centres and when venturing outside 'their' community boundary. For example, Jarman (2005) highlighted the experiences of sectarian abuse and harassment by young people. Other research refers to young people experiencing sectarianism on a daily basis, some considering themselves imprisoned within their neighbourhoods (McAlister, Scraton, and Haydon 2009). While 16 year olds across Northern Ireland over the last 10 years have reported an increase in cross-community contact such as through cross-community friendship, a considerable proportion still refer to spaces and places not being considered 'shared and open' (Devine 2013).

There has been an extensive body of research looking at how young people perceive various locations in Northern Ireland. One emergent theme is that of personal safety and as a result distinctive geographies are created. Leonard and McKnight (2010) examined perceptions of Belfast by 442 young people. Many of their respondents reported feeling unsafe, at least some of the time, even in their residential locations, with about half of those attributing this to ethno-sectarian issues. For the city as a whole, while 62% believed that Belfast was 'shared', 25% suggested that sectarian divisions made the city a divided place. For Leonard and McKnight, this emphasises 'the resilience of ethno-national dispositions even in young people who have grown up in a period of relative stability' (2010, 35). Leonard (2010) referred to young people having to navigate expertly across different types of space in Belfast. She noted sophisticated information networks which allowed young people to 'negotiate and renegotiate their movements within and across the immediate locality and in the process, manage, minimize and avoid risks' (2010, 35). McGrellis (2010) found a sense of unease amongst groups of young people when in areas and communities described as 'other'.

This sense of affiliation to one of the two main communities helps to create separate geographies, as highlighted by Hamilton et al. (2008). Their research, working with maps produced by their respondents, indicated that young people decide patterns of movement between 'safe' places, avoiding those which are perceived as unsafe. These 'mutually exclusive social worlds' (Leonard 2006, 227) have come to dominate parts of Northern Ireland. A corollary of residential segregation is the challenge of navigating this divided environment. Roche (2008) found that 3 out of 4 of her 111 respondents drawn from deprived areas in Belfast and Derry/Londonderry expressed fear of travelling into areas associated with 'the other' community. This research also found that a substantial proportion of young people had *never* entered areas associated with the opposite community for any reason. Paradoxically, this isolation meant that her young respondents felt relatively unconcerned with the effects of sectarianism.

Fear of travelling was also highlighted by participants in the study by Hargie, Dickson, and O'Donnell (2006) in which young people referred to the journey to work, often through an area where 'the other community lived', as more of a challenge and threat than the place of work itself. Bell, Jarman, and Harvey (2010) found that young people limit their life choices in part as a result of perceived, and sometimes, real barriers that they face and their 'fear' of entering into the domain of the 'other' community to access shops, services, schools and employment. Similarly, McAlister, Scraton, and Haydon (2009) found that young people identified their community as the only safe space. Despite having no youth or recreational facilities in their areas, they did not access facilities such as the nearby football pitch nor the snooker hall because they feared for their safety through sectarian violence. McAlister, Scraton, and Haydon (2009) found that young people experienced sectarian abuse and often moved – as a precaution – in groups. This had become normalised as 'the way it is'. Elsewhere, McAlister, Scraton, and Haydon (2014) said, 'In Northern Ireland, the physical and symbolic marking of community space is a defining, visual message of community and cultural identity. While communities can be places of support, belonging and safety, they can also signify hostility, fear and exclusion' (300).

Researching division

The research undertaken on the personal geographies of young people has tended to be qualitative, incorporating methods such as interviews, focus groups and observations, looking at how division has had an impact on their everyday lives and routines (Hamilton et al. 2008; Leonard 2010). Other research has adopted a more anthropological approach, with, for example, Roche (2008) and McAlister, Scraton, and Haydon (2009, 2014) using observations as well as interviews and focus groups. Studies such as Hamilton et al. (2008) also involved interviews and focus groups, as well as participants drawing maps of their impressions of territoriality and segregation in their respective communities. That research also involved some participants completing diaries of their daily activities over a week-long period. Participants were also accompanied by the research team in walks around the area in which they lived to gain a sense of how subjective perceptions are translated into daily routines of shopping, work and accessing services and other facilities. There has also been an extensive body of survey data which has looked at young people's perceptions and experiences (Byrne, Conway, and Ostermeyer 2005; Hamilton et al. 2008; Roche 2008). Larger surveys, such as *Northern Ireland Young Life and Times* (Ark, various years) and *Young Persons Behaviour and Attitudes* survey (NISRA, various years) have looked at young people's experiences of integration and segregation as well as perceptions of division within Northern Ireland (Stockinger 2015). Other survey data have involved examining the relationship between identity and prejudiced attitudes amongst children and young people, often focusing on the relationships between the Catholic and Protestant communities (Cairns et al. 2006; Hayes, McAllister, and Dowds 2007).

These studies have considerable value in exemplifying divisions and the impact of those on young people. However, they rely upon reports of division by the respondents, or those observed by the researchers. This has the advantage of providing rich and affective evidence, but it has the disadvantage of being mediated by those reporting it, or by researcher observers.

While the studies above have identified valuable techniques for gauging perceptions, there is a pressing need to capture actual movement of young people during daily activities. These quantitative data sets can be integrated with existing qualitative techniques to give a rich picture of the personal geographies of young people. Furthermore, by being 'always on', GPS can give researchers an insight into places and issues that may have been previously hidden. We are also interested in 'shared spaces', areas that are not segregated and exhibit strong inter-group mixing but also areas that attract a particular group. By identifying polarised or shared communities from objective GPS data it is possible to indicate spatial behaviour of young people, from which local interventions can be suggested.

An alternative approach – young people's geographies and GPS

An increasingly common method of uncovering the microgeographies of participants is the use of GPS technology. These studies employ tracking devices to record the outdoor movements of the participants, often alongside other methodologies. For example Christensen et al. (2011) aimed to examine the patterns of 'everyday mobility' of 10- to 13-year-old children in Denmark, systematically mapping these by use of GPS and mobile telephone technologies and placing them in a context extrapolated from ethnographic fieldwork and questionnaires. Despite a few technical challenges, the study produced 'a clear and coherent picture of the children's mobility in the landscape over one week' (Christensen et al. 2011, 234). Wiehe et al. (2008) also found the use of GPS tracking devices useful in their study of adolescent health risk. They used mobile telephones with integral GPS units to track 15 adolescent women over a one-week period, combining this with a questionnaire texted to the phone which produced data akin to diary entries. They reported some missing data and technical challenges but the data did allow them to construct 3D representations of space-time paths for each individual and an aggregated time density map plotting peaks superimposed on population sub-groups. In their study in Hertfordshire, Mackett et al. (2007) used GPS

tracking devices alongside questionnaires, activity monitors and diaries to examine the movements of children aged between 8 and 11 years old. Their focus was on activity in the local area, examining independent behaviour in 'walking, playing and organized clubs' (Mackett et al. 2007, 460). They found differences in movements according to gender, with boys more likely than girls to be mobile, and to be allowed out alone. They also found that the physical environment had an impact on mobility, with nearby open space such as parks increasing the likelihood of activity, at least for boys. Mikkelsen and Christensen (2009) found that tracking technology was helpful, alongside interviews, in illuminating differences, by gender for instance, in the range of outdoor activities in which children and young people were involved (46–47). While Mikkelsen and Christensen acknowledged that 'the use of GPS in work with children is still in its infancy' (2009, 42), using this technology would seem to confer considerable benefits in tracking the movements of participants, particularly in combination with other approaches. It has the particular merit of not being mediated through another filter. It is not reliant on movements inferred from diaries or mental maps, or elicited through interviews or discussions. If actions speak louder than words, an objective record of movements may reveal information that does not emerge from reported movements, whether this is accidentally omitted or deliberately hidden. Additionally, unlike accompanied walks for instance, using GPS devices to track movements remotely should remove any potential impact of the researcher's presence.

Research movement in Coleraine

This small study examines the movements of pupils from Post-Primary (Secondary) Schools in Coleraine, a small town in Northern Ireland, located 90 kilometres from Belfast, in a district with a population of 59,067 (NISRA 2013). Coleraine, like other towns and settlements, was affected by the 'Troubles', with 12 reported deaths. Even after the signing of the Belfast/Good Friday Agreement, there have been three ethno-sectarian related deaths (see CAIN 2015). The 2011 Census indicates that 28% of the population consider themselves to be 'Catholic' and 65.3% 'Protestant and Other Christian' (NISRA 2013). Despite this, neither the town nor the surrounding area would appear to have the obvious divisions seen in larger settlements, and there is a total absence of 'Peace Walls' separating different areas. Bell, Jarman, and Harvey (2010) referred to Coleraine and its estates experiencing tensions at times of 'Old Firm' (Glasgow Rangers vs. Glasgow Celtic) football matches. They also noted the erection of flags and described the bridge across the River Bann, which divides the town, as contested space. In 2005/06 the police recorded 63 incidents and 58 crimes with a sectarian motive in Coleraine. This rose to an average of 78 incidents and 67 crimes between 2009 and 2015. (PSNI 2015).

The sample

Schools in Northern Ireland are de facto segregated in terms of religion as over 90% of school aged children are taught in schools overwhelmingly with co-religionists and with a very small (7%) integrated sector which seeks to bring children of different religions together. Additionally, academic selection at 11 remains commonplace, so there is a mixture of schools with some being selective Grammar and the remainder being non-selective (Gardner 2016). There are six Secondary schools in Coleraine, of which four agreed to take part in this research project. One class from each of the four participating schools was selected for participation in the research project, in conjunction with a Geography teacher in each school. The classes were chosen partly with regard to the topics being studied and whether the research could be a mechanism for supporting or stimulating learning. While having respondents selected by individuals other than the researchers is not ideal, it is a recurring challenge in conducting research involving children and young people. Much of such research is dependent on access to institutional settings such as schools, youth organisations and welfare

agencies, access to which is dependent on the goodwill of institutional gatekeepers (Morrow and Richards 1996; Leonard 2007). In total, 74 pupils were involved in the research.

Each pupil was asked to carry a small portable GPS device (i-GotU GT-600) for one week but, as there were only sufficient devices for two schools at a time, the research period lasted three weeks (11th November to 3rd December 2013), which included a one-week gap for devices to be retrieved from the first pair of schools, data downloaded and erased and devices delivered to the remaining schools.

When the GPS trackers were distributed in each class, participants were asked to complete a questionnaire which explored demographic background as well as their views and opinions about living in Coleraine, and factors influencing potential mobility. The questionnaire results were anonymised but matched to an individual's GPS device.

The third strand of the research used focus groups, generally comprising smaller groups of young people who had been involved in the research ($n = 50$). In these, preliminary findings from the research were shared and anonymised maps were used to facilitate the discussion.

Full ethical approval was obtained from the participating schools, the parents, the teachers, the pupils and the University.

Results

The GPS devices recorded their position every 5 seconds but the data were filtered to one point every 30 seconds to reduce file sizes. One faulty device gave anomalous data points, producing an intermittent but very recognisable North West to South East 'streak' of inconsistent readings, which could easily be identified and removed.

GPS tracks were overlaid on street maps and orthophotography using ArcGIS software, allowing exploration of differences in movement by gender, by time of day or by day of week, for instance.

Questionnaire data showed that most pupils (67%) were aged between 13 and 15 (maximum age 17), with a 46%/54% male to female split. Sixty per cent saw themselves as 'Protestant', 23% 'Catholic' and 15% 'Neither', figures which are close to the relative proportions of the town and surrounding area. With this self-identification of their ethno-sectarian affiliation, it was possible to plot the microgeographies of those who viewed themselves as 'Catholic' and 'Protestant'. The patterns of movement over the period in which the devices were used are shown in Figures 1–5, broken down by claimed ethno-sectarian affiliation.

Movements in residential suburbs

Figures 1 and 2 are centred in a residential area of Coleraine known as the Heights. The edge of the Central Business District of Coleraine can be seen in the north east of the map, with another small commercial area to the west of the river linked by a bridge identified by Bell, Jarman, and Harvey (2010) as a contested space. The maps suggest a slightly different usage pattern of this area by the two groups, with relatively little movement of Protestant pupils within the area containing the highest percentage of Catholic residents (in the central portion of the map). There is evidence to suggest that respondents are using cars to traverse the arterial routes around and through these housing areas separately, so that these might better be described as 'co-used', rather than 'shared'. Nonetheless, there would appear to be routes and nodes within the Heights which are used by both communities, although their use may not be coincident in time. This might suggest that the 'episodic use' of the urban fabric identified in Belfast by Leonard and McKnight (2010) is replicated elsewhere in Northern Ireland, even within small towns.

Some of the activity within the housing areas shown in Figures 1 and 2 are not shared. They include places of congregation for young people associated with shops, fast food outlets and, in some instances, churches. The results seem to reflect the community background of the participants provided in our biographic survey, with just over a third reporting living in a mixed neighbourhood

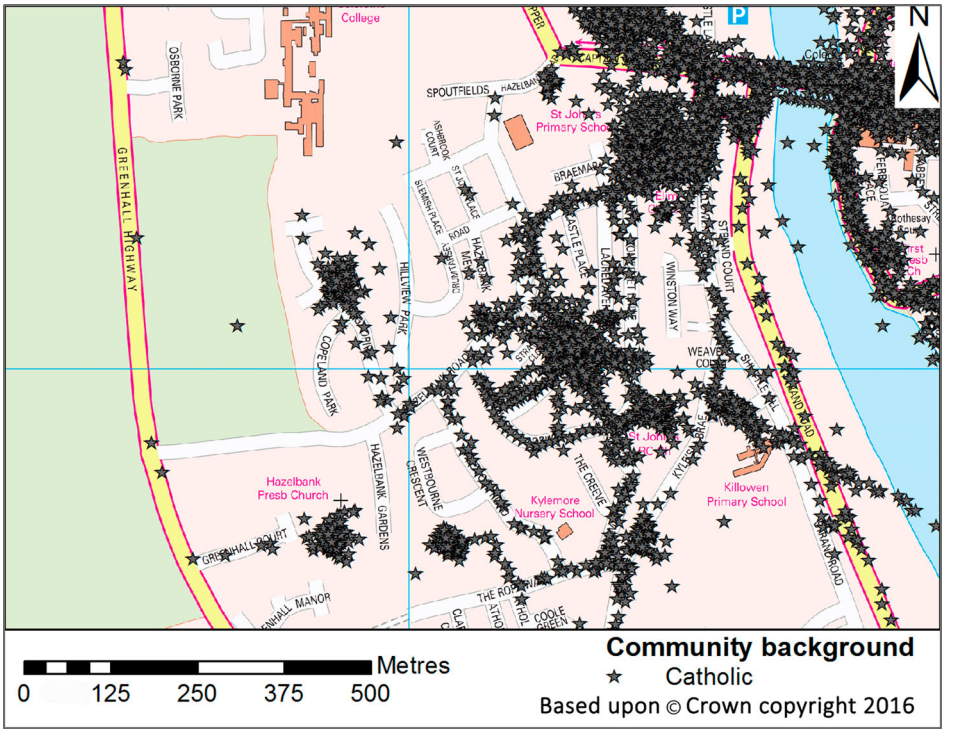

Figure 1. The Heights, Coleraine, movements of Catholic Respondents.

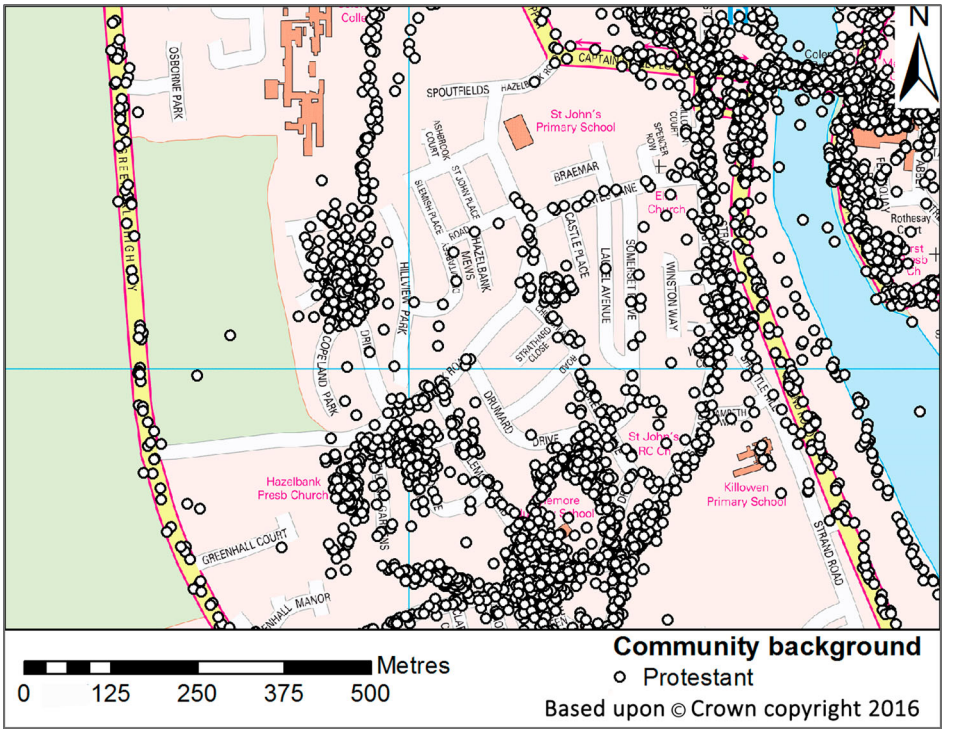

Figure 2. The Heights, Coleraine, movements of Protestant Respondents.

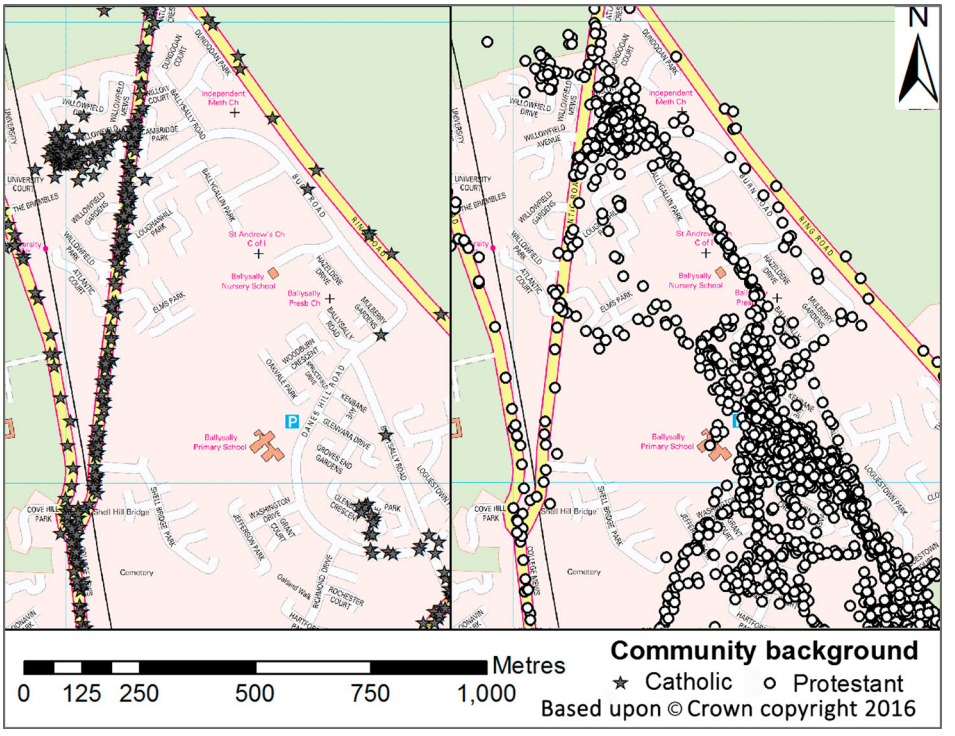

Figure 3. Ballysally, movements of Protestant and Catholic Respondents.

and 66% stating that they live in a neighbourhood which is segregated that is, somewhere that is mostly or nearly all Protestant or Catholic. This would support other research (Schubotz and Devine 2011) which found that 67% of 16 year olds referred to living in segregated areas.

A clear response in focus groups was that most respondents knew the ethnic geography of their settlement very well. This excerpt is from a Protestant school

Interviewer:	Looking at a map, do you know what areas would be Catholic and what are Protestant, or is it one side of the river is one side and the other side is the other?
Boy 4:	It is really just …
Boy 5:	This side of the river is more Catholic [refers to Heights area on map on screen], the left hand side of that
Boy 4:	… tricolours [flags signifying a Catholic area]
Boy 4:	And if you are not one of them you feel out of place, you know.
Boy 5:	You would if you had to but you don't … just …
Boy 6:	Not really, because you sort of think to yourself, I don't really know that and … just the types of people basically that are around there …
Boy 5:	You try to avoid it …

Figure 3 shows Ballysally, a northern suburb of Coleraine. Apart from some movement along the arterial routes peripheral to the housing area, pupil movement in this working-class housing area is dominated by Protestants. Only one individual who identified as Catholic entered this housing area in the period under study. This was a single journey and an analysis of the trace shows that the movement involved a vehicle, because of the speed of travel. The dominance of Protestants in this housing area would tend to confirm the segregation of residence and the concomitant segregation of movement and socialisation that has been identified widely in Belfast (Boal 2008; Komarova 2008) and in some other areas of Northern Ireland (Hamilton et al. 2008).

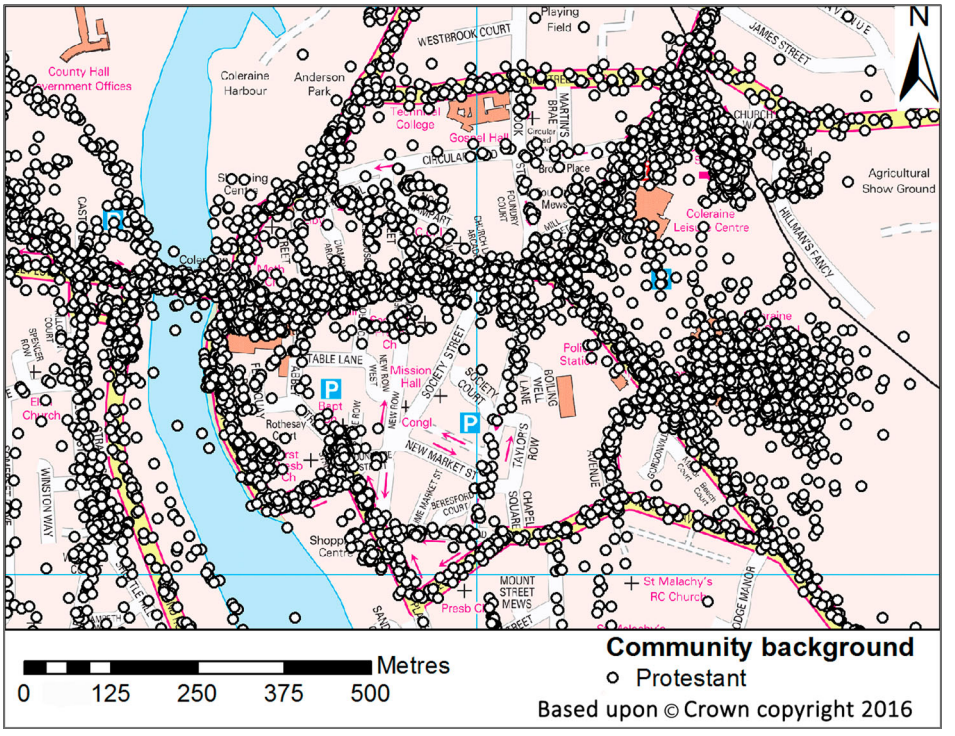

Figure 4. Coleraine Centre, movements of Protestant Respondents.

Through the focus group it was also possible to further elaborate on various areas in Coleraine as references were made to the divisions based on community background. Participants expressed knowledge of various parts of the town as 'belonging to' one community or the other, as shown in this excerpt from a Protestant school.

Girl 1:	Like the Heights and Mountsandel …
Girl 2:	They don't mix [explaining …] because they are Protestants and Catholics
Girls:	The Heights
Girl1:	Like, across the bridge
Girl 2:	Each side of the bridge
Interviewer:	So it's divided by the river?
Girls:	Yeah
Girl 3:	But my [Protestant] church is up in the Heights. From the top of the Heights to the bottom, there is like the Catholic flag, the whole way down and then across the road from that there is like the Protestant flag. It is like people marking their territory, that's what my Mum says.

Respondents in a Catholic school also referred to parts of Coleraine being divided.

Boy 1:	A lot of people don't mind it but it is just sort of the way it is, that there is the Catholic areas and the Protestant areas
Boy 2:	Some people like to continue it on, like stirring about religion and stuff
Interviewer :	But it is something if you are out and about, it is always in the back of your mind, where you are going and what you are wearing, and …
Boy 2:	If you walk by, like someone will say something to you …
Interviewer:	Is there a Catholic Coleraine, and a Protestant Coleraine?
Boy 3:	There's people who take it, like, real serious – like, this is the Catholic side and all. And there's people who just get on with it

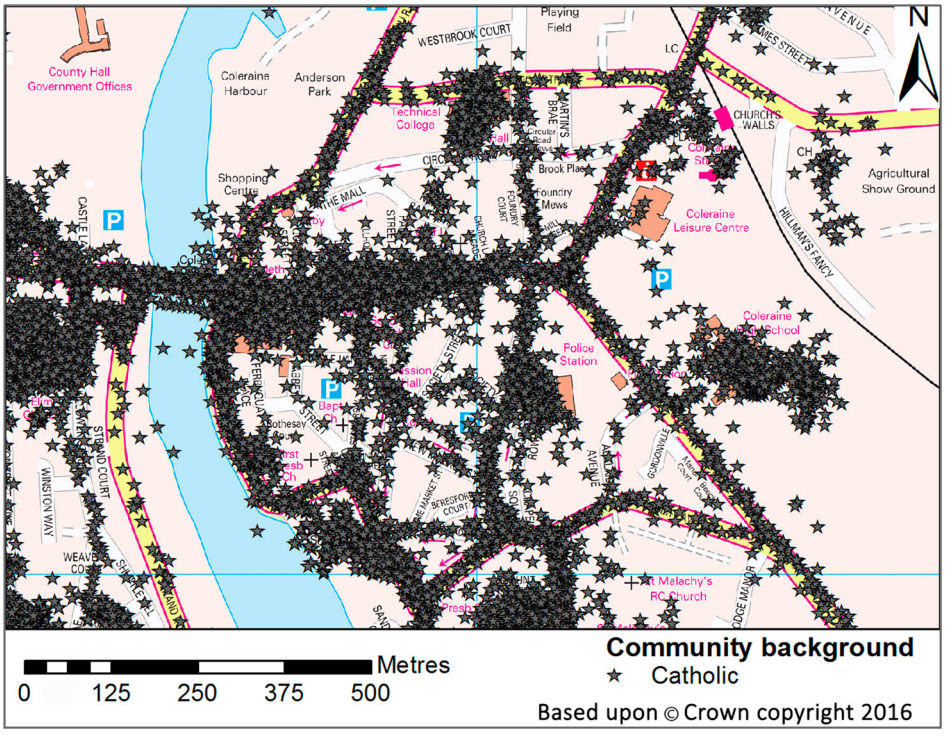

Figure 5. Coleraine Centre, movements of Catholic Respondents.

Movements in the town centre and near amenities

When asked about whether or not the town centre was 'shared and open' to both Protestants and Catholics, there was overwhelming agreement (84%) that this was the case. As well as the town centre, nearby places such as a local cinema and the town leisure centre were seen by just over half of the sample as 'shared and open' to everyone, regardless of community background. Only two types of places were more likely to be considered not 'shared and open', namely the bus and train stations and the local parks.

When asked about variations in feelings of safety in environments during the day, most stated they felt safe in their own area during the day (98%) and night (84%). When it came to the town centre, 99% (72) stated they felt safe during the day, but that figure dropped to 38% (27) at night. While the high daytime figure would suggest that the centre of Coleraine is perceived as very safe then, the sharp difference at night would accord with the findings of others that young people avoid places at certain times (McAlister, Scraton, and Haydon 2009, 84).

The questionnaire asked respondents whether there were places/spaces where young people from the two main communities could meet socially in Coleraine. Just under half (45%) of the sample stated that there were, but 38% did not know and 16% believed that there were no such places. This might suggest that, while the majority of respondents referred to places being shared and open, this does not necessarily indicate that places were seen as places to further interact.

Similarly, references were made to particular places in which groups of young people from the two main communities shared the space. This is illustrated by one Protestant school's participant:

Girl 6:	You might have Protestants and Catholics that live in certain areas but there is not going to be a certain group of people who go to the Jet Centre [local cinema]. They all kinda mix together
Interviewer:	So it's a sort of a neutral place that anyone can go to?
Girl 6:	Coleraine is quite small so you sort of have to mix.

This would suggest a driver towards somewhat more mixing in smaller settlements in Northern Ireland. While cities like Belfast may be large enough to have a 'Protestant' leisure centre and a 'Catholic' leisure centre in certain areas, this may not be an option in smaller communities. However, previous research findings were supported as participants made reference to symbols and aspects of safety, such as the wearing of a school uniform.

Girl 7: My brother goes to School [x] and he knows not to go down a certain road in his uniform, because he knows he is going to get hit and stuff

Girl 8: I wouldn't go there on my own, I would bring somebody if I was going, even during the daytime just because sometimes people hang around there, you don't get a nice feeling

Other participants referred to parents not sharing or lacking awareness about community divisions in Coleraine, emphasising that dangers, particularly for young females, may extend beyond the sectarian:

Girl 4: I don't know if my parents know about the Protestant Catholic divide but if they do, they haven't told me, because we are not originally … we haven't always lived here. We are from near Belfast, so they haven't passed that on to me.

Girl 5: My parents never told me about Protestants and Catholics – I found out when I came to this school in first or second year, because I don't see it as being important, and they tell me not to go somewhere because its unsafe, they wouldn't mention about Protestant and Catholic.

The patterns of movement within the town centre are demonstrated in Figures 4 and 5. This is the traditional retail and service core of the town and the movements of those who claimed Catholic or Protestant identity over the period of the study are shown. The similarity in the two maps could be used to support the idea that the centre of Coleraine is non-contested and shared space. Indeed, an examination of the timestamps on each of the points would suggest the space is used by both communities at overlapping times – Friday afternoon trips to coffee shops seem common to both groups, for instance. However, it is more difficult to determine whether the distribution of points in Figures 4 and 5 indicates real sharing. Indeed it may be that it is instead an indication that the space is used by both communities, and at the same time, but with limited contact between them. This could be termed 'co-use' of a space which is open to both communities. While not episodic (Leonard and McKnight 2015), neither is it clear that it is shared.

Conclusion

In this paper we have highlighted that in Northern Ireland, specifically in the town of Coleraine, divisions within a society emerging from 30 years of violence impact on the movement and mobility of young people. The GPS traces and the discussions which they generated are an effective way of getting an insight into the divided geographies of these young people. While this was a small sample, it is clear that some of the respondents, at least, have had their personal mobilities impacted upon by the ethnic geographies of the area around which they navigate, or are navigated by others. We can conclude that, at least for the period of this research, the two communities were exposed to different geographies, and will have had a different exposure to the environment. It is possible that these two communities have access to very different aggregate geographies with routes taken and places visited that are particular to each group. If this is the case, we have different populations attending schools in the same small town, but developing very different geographies as they navigate their environments.

Most of the respondents showed a sophisticated understanding of the distribution of ethno-sectarian areas in the Coleraine, and this seems to impact on how and where they travel, and potentially where they can socialise, gain friends and thus fully share the space. They also recognised and acknowledged that some places were not contested and were open to both sections of the community. While these included facilities such as the local cinema, they also included services such as coffee shops in the town centre. However, it was notable that, while some parts of Coleraine may be open to both communities, these areas may not be shared but rather co-used, with both communities

using the space, but separately, and with no evidence of sharing of the space in any meaningful way. Thus the segregation of space over time identified by Leonard and McKnight (2010) may be compounded by a lack of sharing, even when the space is used contemporaneously. Developing a shared future in Northern Ireland, despite political initiatives, may be a considerable challenge.

The use of GPS methodology has clearly demonstrated its capacity to contribute to a more informed understanding of division and mobility. The data which the GPS tracking devices produced were highly detailed and, particularly when aggregated, provided a clear insight into the personal geographies of groups of individuals, in this case ethno-sectarian groups. By monitoring distance covered along with timestamps in the data it is possible to infer mode of transport. Furthermore, there is the potential to integrate GPS tracks with a range of other spatial data sets such as social media deprivation and crime rate data, which might give researchers valuable insights into the personal geographies of young people. However, much of the 'meaning' of the raw data in this study had to be inferred from the spatial patterns produced by the mapping data. Only when combined with the data from focus groups and questionnaires was a fuller understanding possible. This would suggest that a mixed methods approach, combining qualitative research with GPS tracking, would have much to commend it. An incidental benefit of such an approach in this instance was that it encouraged collaboration between staff from different faculties working together and combining different skillsets, a fuller discussion of which falls outside the scope of this paper.

There is considerable potential in combining these methodologies. Given that it is possible to infer the distance walked each day, it is possible to monitor individual activity levels. Different geographies related to income, or to age or gender, and those related to different ethnic groups would be rich areas to explore further. We would argue that social divisions particularly could be highlighted using such a mixed method approach. In societies emerging from conflict, such as Northern Ireland, the graphic illustration of continued division, where apparent, can be used to emphasise the lack of a shared present, and the hopes for a truly shared future.

Acknowledgements

The authors gratefully acknowledge the teachers and participants of this study and Dr Julie Campbell who worked closely with the schools in the use of the GPS tracking devices. The authors are also thankful for the helpful comments of the two anonymous referees. Maps based upon Land & Property Services Intellectual Property © Crown Copyright (2016).

Disclosure statement

No potential conflict of interest was reported by the authors.

Funding

The authors also thank Causeway Coast and Glens Council for funding the purchase of some of the GPS devices through the Good Relations Challenge Programme.

ORCID

Stephen Roulston http://orcid.org/0000-0001-6043-7261
Sally Cook http://orcid.org/0000-0002-8287-4523
Paul McKenzie http://orcid.org/0000-0003-2117-8724

References

Ark. various dates. *Northern Ireland Young Life and Times Survey*. Accessed February 12, 2016. http://www.ark.ac.uk/ylt/.

Bell, J., N. Jarman, and B. Harvey. 2010. *Beyond Belfast: Contested Spaces in Urban Rural and Cross Border Settings*. Belfast: Northern Ireland Community Relations Council.
Boal, F. W. 2008. "Territoriality on the Shankill-Falls Divide: Being Wise After the Event." *Irish Geography* 41 (3): 329–335.
Byrne, J., M. Conway, and M. Ostermeyer. 2005. *Young People's Attitudes and Experiences of Policing, Violence and Community Safety in North Belfast*. Belfast: Northern Ireland Policing Board.
CAIN (Conflict Archive on the Internet). 2015. *Violence – Draft List of Deaths Related to the Conflict from 2002*. http://cain.ulst.ac.uk/issues/violence/deathsfrom2002draft.htm#2009.
Cairns, E., J. Kenworthy, A. Campbell, and M. Hewstone. 2006. "The Role of In-Group Identification, Religious Group Membership and Intergroup Conflict in Moderating In-Group and Out-Group Affect." *British Journal of Social Psychology* 46: 701–716.
Christensen, P., M. R. Mikkelsen, T. A. S. Neilsen, and H. Harder. 2011. "Children, Mobility, and Space: Using GPS and Mobile Phone Technologies in Ethnographic Research." *Journal of Mixed Methods Research* 5 (3): 227–246.
Devine, P. 2013. "Into the Mix." ARK Research Update 83. www.ark.ac.uk/publications/updates/update83.pdf.
Dixon, P. 2002. "Political Skills or Lying and Manipulation? The Choreography of the Northern Ireland Peace Process." *Political Studies* 50 (4): 725–741.
Gardner, J. 2016. "Education in Northern Ireland since the Good Friday Agreement: Kabuki Theatre Meets Danse Macabre." *Oxford Review of Education* 42 (3): 346–361.
Graham, B., and C. Nash. 2006. "A Shared Future: Territoriality, Pluralism and Public Policy in Northern Ireland." *Political Geography* 25 (3): 253–278.
Hamilton, J., U. Hansson, J. Bell, and S. Toucas. 2008. *Segregated Lives: Social Division, Sectarianism and Everyday Life in Northern Ireland*. Belfast: Institute of Conflict Research.
Hargie, O., D. Dickson, and A. O'Donnell. 2006. *Breaking Down Barriers: Sectarianism, Unemployment and the Exclusion of Disadvantaged Young People from Northern Ireland Society*. Jordanstown: University of Ulster.
Hayes, B. C., I. McAllister, and L. Dowds. 2007. "Integrated Education, Intergroup Relations, and Political Identities in Northern Ireland." *Social Problems* 54 (4): 454–482.
Hughes, J., A. Campbell, M. Hewstone, and E. Cairns. 2007. "Segregation in Northern Ireland." *Policy Studies* 28 (1): 33–53.
Jarman, N. 2005. *No Longer a Problem? Sectarian Violence in Northern Ireland*. Belfast: Institute for Conflict Research.
Komarova, M. 2008. *Shared Space in Belfast and the Limits of a Shared Future*. Divided Cities/Contested States, Working Paper No. 3. Accessed March 2, 2012. www.conflictincities.org/workingpapers.html.
Leonard, M. 2006. "Teens and Territory in Contested Spaces: Negotiating Sectarian Interfaces in Northern Ireland." *Children's Geographies* 4 (2): 225–238.
Leonard, M. 2007. "With a Capital "G": Gatekeepers and Gatekeeping in Research with Children." In *Representing Youth: Methodological Issues in Critical Youth Studies*, edited by A. Best, 153–169. New York: New York University Press.
Leonard, M. 2010. "Parochial Geographies: Growing up in Divided Belfast." *Childhood* 17 (3): 329–342.
Leonard, M., and M. McKnight. 2010. "Teenagers' Perceptions of Belfast as a Divided and/or Shared City." *Shared Space* 10: 23–37. Accessed February 10, 2016. http://www.community-relations.org.uk/wp-content/uploads/2010/01/chapter-two.pdf.
Leonard, M., and M. McKnight. 2015. "Traditions and Transitions: Teenagers' Perceptions of Parading in Belfast." *Children's Geographies* 13 (4): 398–412.
Lichter, D. T., D. Parisi, and M. C. Taquino. August 2012. "The Geography of Exclusion Race, Segregation, and Concentrated Poverty." *Social Problems* 59 (3): 364–388.
Mackett, R., B. Brown, Y. Gong, K. Kitazawa, and J. Paskins. 2007. "Children's Independent Movement in the Local Environment." *Built Environment* 33 (4): 454–468.
Massey, D. S., and M. J. Fischer. 2003. "The Geography of Inequality in the United States, 1950−2000." In *Brookings-Wharton Papers on Urban Affairs*, edited by W. G. Gale and J. R. Pack, 1–29. Washington, DC: The Brookings Institution.
McAlister, S., P. Scraton, and D. Haydon. 2009. *Childhood in Transition: Experiencing Marginalisation and Conflict in Northern Ireland*. Belfast: Queen's University, Save the Children and Prince's Trust. Accessed August 2, 2016. http://www.savethechildren.org.uk/resources/online-library/childhood-transition-experiencing-marginalisation-and-conflict-northern.
McAlister, S., P. Scraton, and D. Haydon. 2014. "Childhood in Transition: Growing up in "Post-Conflict" Northern Ireland." *Children's Geographies* 12 (3): 297–311.
McGrellis, S. 2010. "In Transition: Young People in Northern Ireland Growing Up in, and out of, Divided Communities." *Ethnic and Racial Studies* 33 (5): 761–778.
Mikkelsen, M. R., and P. Christensen. 2009. "Is Children's Independent Mobility Really Independent? A Study of Children's Mobility Combining Ethnography and GPS/Mobile Phone Technologies." *Mobilities* 4 (1): 37–58.
Morgan, A. 2000. *The Belfast Agreement: A Practical Legal Analysis*. London: Belfast Press. Accessed December 9, 2015. http://austenmorgan.com/Assets/PDFs/Belfast_Agreement.pdf.

Morrow, V., and M. Richards. 1996. "The Ethics of Social Research with Children: An Overview." *Children and Society* 10 (2): 90–105.
NISRA (Northern Ireland Statistics and Research Agency). various years. *Young Persons Behaviour and Attitude Survey*. Accessed February 10, 2016. http://www.csu.nisra.gov.uk/survey.asp14.htm.
NISRA (Northern Ireland Statistics and Research Agency). 2013. *Area Profile Report. Coleraine*. http://www.colerainebc.gov.uk/content/file/Economic%20Development%202013/Coleraine%20profile%20November%202013.PDF.
Nolan, P. 2013. "Northern Ireland: The Measurement of Sharing and Separation in a Post-Conflict Society." *Shared Space* 16: 5–20.
OFMDFM (Office of the First Minister and Deputy First Minister). 2005. *A Shared Future. Policy and Strategic Framework for Good Relations in Northern Ireland*. Belfast: OFMDFM. Accessed August 2, 2016. https://www.executiveoffice-ni.gov.uk/publications/shared-future-policy-and-first-triennial-action-plan-2006-2009.
OFMDFM (Office of the First Minister and Deputy First Minister). 2013. *Together Building a United Community*. Belfast: OFMDFM. Accessed August 2, 2016. https://www.executiveoffice-ni.gov.uk/publications/together-building-united-community-strategy.
PSNI (Police Service of Northern Ireland). 2015. "Trends in Hate Motivated Incidents and Crimes Recorded by the Police in Northern Ireland 2004/05 to 2014/15." *Annual Bulletin*. https://www.psni.police.uk/globalassets/inside-the-psni/our-statistics/hate-motivation-statistics/hate_motivated_incidents_and_crimes_in_northern_ireland_2004-05_to_2014-15.pdf.
Roche, R. 2008. *Facts, Fears and Feelings Project: Sectarianism and Segregation in Urban Northern Ireland: Northern Irish Youth Post-Agreement*. Belfast: School of History and Anthropology, Queen's University Belfast.
Roulston, S., and O. Young. 2013. "GPS Tracking of Some Northern Ireland Students – Patterns of Shared and Separated Space: Divided We Stand?" *International Research in Geographical and Environmental Education* 22 (3): 241–258.
Schubotz, D., and P. Devine. 2011. *Segregation Preferences of 16-Year Olds in Northern Ireland. What Difference Does Urban Living Make?* Accessed August 17, 2016. conflictincities.org/PDFs/WP22.pdf.
Shirlow, P., and B. Murtagh. 2006. *Belfast: Segregation, Violence and the City*. London: Pluto Press.
Shuttleworth, I., and C. Lloyd. 2013. "Moving Apart or Moving Together? A Snapshot of Residential Segregation from the 2011 Census." *Shared Space* 16: 57–70.
Shuttleworth, I. G., and C. D. Lloyd. 2009. "Are Northern Ireland's Communities Dividing? Evidence from Geographically Consistent Census of Population Data, 1971–2001." *Environment and Planning A* 41 (1): 213–229.
Stockinger, H. 2015. "Young People's Experiences of Integration and Segregation in Northern Ireland." ARK Research Update 99. Accessed August 2, 2016. http://www.ark.ac.uk/publications/updates/update99.pdf.
Wiehe, S. E., A. E. Carroll, G. C. Liu, K. L. Haberkorn, S. C. Hoch, J. S. Wilson, and K. L. Fortenberry. 2008. "Using GPS-Enabled Cellphones to Track the Travel Pattern of Adolescents." *International Journal of Health Geographics* 7 (22). Accessed February 1, 2016. http://www.ij-healthgeographics.com/content/7/1/22.