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Negotiating the Ground: 'Mobilizing' a Divided Field Site in the 'Post-Conflict' City

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Abstract: While an exploration of mobility patterns in 'post-conflict' societies has much to tell us about how division is produced through ordinary activities, less work has considered the practical application of a mobilities 'lens' during fieldwork in such contexts. Negotiating the ground in highly polarized contexts presents a unique array of challenges, but also offers opportunities to make use of mobile methodologies. This paper discusses the advantages of GPS-based technologies and walking interviews to a recent activity-space segregation study in Belfast, Northern Ireland, and reflects on methodological issues posed by the 'post-conflict' field site.

Key Words: mobile methodologies, walking interviews, GPS tracking applications, activity-space segregation, researching post-conflict societies, urban polarization, Northern Ireland conflict

Introduction: Methodological Challenges of Mobilities Research in Divided Contexts

The rise of the so-called 'new mobilities paradigm' (Sheller and Urry 2006; Urry 2007) within the social sciences has demanded an emphasis on 'methodological innovation' (Sheller 2014, 801). Implicit in the paradigm's recognition that 'all places are tied into at least thin networks of connections that stretch beyond each such place' (Sheller and Urry 2006, 209) is an accompanying acknowledgement that the nascent discipline must be as much about exploring 'fixities' as 'fluidities' among and between people and places (210). A range of methods inspired by the technological, spatial and affective dimensions of contemporary life – including ethnographic walking interviews, GPS-based mapping

of mobility trajectories as well as an increased emphasis on the 'places-in-between' –

have sought to explore the full scope of the mobility experience (Sheller and Urry 2006;

Sheller 2014; Harada and Waitt 2013; Palmer et al. 2013). At the same time, traditional

more sedentarist social science approaches have hardly been abandoned. As Sheller

(2014) contends, mobilities research requires 'multiple methods' that can investigate the

'intertwined' (800) nature of 'mobility-in-practice' (803).

Social science research in post-conflict societies is particularly affected by the

existence of 'uneven mobilities' (Sheller 2015; Miciukiewicz and Vigar 2012) with far-

reaching impacts on policies that promote social justice, conflict transformation and

economic efficiencies. Pullan (2014), for instance, has noted the ways in which a

securitized regime of borders and boundaries between Israelis and Palestinians in

Jerusalem has effectively jettisoned the potential for cross-community social interaction,

a condition that ultimately circumscribes the freedom of all residents, albeit in highly

unequal ways. The fractured social context often left in the wake of violent conflict

inevitably impacts upon the ease and safety of movement and, ultimately, access to

opportunity, as well as to the delivery of services (Deloitte 2007). Moreover, work that

considers the methodological challenges and opportunities for researchers applying a

mobilities 'lens' to fieldwork in 'post-conflict' societies, where the triadic relationship

between people, place and mobility (Fallov, Jørgensen, and Knudsen 2013) is

complicated by violent legacies and sectarian associations, has much to tell us about how

segregation is produced and reinforced through ordinary daily activities. Negotiating the

ground in such polarized contexts presents a unique set of considerations for researchers.

A methodological approach that addresses the inherent sensitivities of the post-conflict

context, while drawing on technological innovation and movement immersion with research participants is best situated to capture the multidimensional nature of socio-spatial exclusion (Ruiz-Tagle 2013), as well as the impact of activity-space segregation as 'lived' by research participants in a divided field site. The fluctuating nature of activity-space segregation underscores the need for the methodological toolkit to take into account that levels of integration will almost certainly wax and wane over time (Tredoux et al. 2005). It is our contention that issues of spatiality, such as segregation patterns, must be examined through the prism of time and human mobility, as opposed to solely static residential spaces, as has historically been the case (Kwan 2013). The methodological framework of the Belfast Mobility Project (BMP), described in detail in the following sections, sought to apply the potential of walking interviews, GPS tracking and GIS analysis to the investigation of mobility and segregation phenomenon in a divided city, namely, Belfast, where the legacy of violent conflict and the attendant fear associated with being in the wrong place at the wrong time has had a profound impact on limiting people's mobility, as well as access to jobs, services and other public facilities (Shirlow 2003b).

The BMP contributes to existing work that uses a mobilities lens and/or methods to explore spatial dynamics and segregation in Northern Ireland (Shirlow 2003a, 2003b; Bairner and Shirlow 2003; Murray 2014; Komorova and Mcknight 2013, 2012; Mitchell and Kelly 2010). Likewise, it extends on a body of work employing small-scale tracking of research participants via GPS devices in divided contexts (e.g., Roulston et al. 2017 on sectarianism and Northern Irish schoolchildren's mobility patterns; Raanan and Shoval 2014 on the relationship between perceived spatial boundaries of residents in Jerusalem

and real-life spatial activities). At the same time, the BMP builds on work that has demonstrated the potential of smartphone applications to explore variations between groups in the use of space (Palmer et al. 2013; Yip, Forrest and Xian 2016).

In light of the ability of GPS and GIS technologies to record and visualize mobility patterns as well as enrich our understanding of the impact of social networks and affective ties in shaping these patterns (see, for instance, mixed-methods work employing GPS tracking by Jensen, Sheller and Wind 2015, which considers the role of the family in determining movement patterns; and Mikkelsen and Christensen's (2009) investigation into influences on children's mobility), the BMP methodology employed a mobile, mixed-methods approach. This approach detailed in the methodological reflection which follows, is distinguished by a relatively high volume and resolution of participant GPS tracks obtained via a bespoke smartphone application, an extensive survey on contact and mobility choices, which all tracked participants completed, as well as the rich local detail gleaned from walking interviews and accompanying photographs. Together, these quantitative and qualitative elements shed light on how day-to-day mobility in Belfast is influenced by fear and sectarianism, while simultaneously pointing to aspects in the landscape that encourage mixing and shared space.

Aims and Objectives

The aim of this paper is to address the methodological value of adopting a mobilities approach to work on activity-space segregation in a 'post-conflict' divided city. Our

intent is not to present in detail empirical data, but rather to explore the challenges and opportunities this kind of research entails. The paper outlines the considerations of carrying out mobilities research during the BMP's activity-space segregation study in North Belfast. After discussing the two principal methodologies used in the project, the walking interview and a GPS tracking application, the paper goes on to consider the issues that researchers negotiated during fieldwork, including access to the 'post-conflict' research site, the ethics of engagement, impact of gender, as well as technological and practical logistics. It is our hope that other researchers will benefit from the lessons learned during our fieldwork, allowing them to produce similar mobile mass ethnographies in other cities. These ethnographies, we believe, capture a valuable, and often elusive, set of emic socio-spatial knowledge that, ultimately, can inform policy that contributes to more just, equitable cities in the future.

Research Context and Methods

The conflict in Northern Ireland left the country's capital city, Belfast, largely divided between Protestants who wanted to remain under British rule and Catholics who have historically supported reunification with the Republic of Ireland.[1] Despite the existence of a peace agreement since 1998, the city remains defined by high levels of residential and educational segregation and is divided by physical barriers (commonly referred to as

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[1] The categories Protestant and Catholic are not intended to exclude other identities in Northern Irish society nor to imply religious fervor among group members, but as Shirlow (2003a, 92) notes, 'are used for the sake of brevity' in a conflict, which hinges on broader ethno-national disputes.

'peace walls'), which were initially erected as a temporary response to rising tensions

between Catholics and Protestants during the conflict (Gormley-Heenan, Byrne, and

Robinson 2013). These walls, which separate residents living in 'interface' areas,[2] have

become a fixture on the Northern Irish landscape, with more than 100 barriers in

existence (Belfast Interface Project 2017). Not only do the barriers reinforce and maintain

single-identity group attitudes in working-class communities (which bore the brunt of the

conflict), but they also facilitate fear-based perceptions and reduce opportunities for

positive cross-community interactions (Bell and Young 2013). Thus, while ostensibly

classified as 'post-conflict'[3], Belfast remains highly territorialized, with many working-

class areas outside of the city centre heavily influenced by paramilitary organizations

(Alderdice, McBurney, and McWilliams 2016). These organizations engage in a range of

illicit activities such as drug dealing, evictions and punishment shootings while also

ensuring that the sectarian nature of space is upheld (Knox 2002; Gallaher 2007).

Territory is further inscribed with sectarian associations via symbolic markings, such as

flags, murals, memorials and painted kerbstones. These markings are used to 'enclose'

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[2] The term 'interface' is used to refer to areas in the city where Protestant residential areas abut

Catholic neighbourhoods. These areas are sometimes divided by 'peace walls' or security

barriers although the demarcation line is often less evident to outsiders, and may be indicated by

little more than a flag or other sectarian marking.

[3] The term 'post-conflict' is used to connote the period after the 1998 Good Friday peace

agreement. It is not intended to suggest the complete cessation of conflict-related violence or

associated social problems.

space as the purview of particular ethno-national groups (Shirlow 2003a; Komarova and McKnight 2013).

This intense spatial division is reflected in residents' highly segregated mobility patterns – with Protestants and Catholics often using different facilities and pathways in order to avoid the 'other' community (Shirlow 2003b; Murtagh 2003). These decisions are often made consciously in order to make people feel safe, specifically during contentious moments in the year. For example, this may occur during the summer marching season when pro-British loyalist fraternal organizations and flute bands parade through city streets to mark key dates in the Protestant commemorative calendar, a manifestation viewed with hostility by the Catholic population (Komarova and McKnight 2013). On other occasions, people choose segregated routes simply out of habit (Hamilton et al. 2008).

The BMP examined how divisions between and among predominantly Protestant and Catholic areas affected people's lives in North Belfast, which suffered disproportionately high levels of casualties during the conflict and remains defined by a 'patchwork' of distinct Catholic and Protestant housing estates (McKittrick et al. 2007). The high level of segregation between Catholics and Protestants living in close proximity in North Belfast sets it apart from other areas in the city, which have mostly been carved up into spatially homogenous ethno-national quadrants. For instance, West Belfast is predominantly Catholic, with the exception of the largely Protestant Shankill Road. East Belfast is mostly Protestant, save for the predominantly Catholic Short Strand area. Meanwhile, South Belfast, anchored by Queen's University, demonstrates less definition in the separation of communities, with some pockets of mixed neighbourhoods (Hamilton

et al. 2008). As a result, North Belfast makes for a compelling investigation into the ways in which people's movements in a highly divided microcosm of the city are intimately affected by wider segregation patterns.

Research participants were drawn from five divided neighbourhoods in North Belfast. Each of these sites contain a mix of Protestant and Catholic-dominated enclaves, but exhibit different micro-geographies as well as inter-and-intra-communal dynamics, and thus presented the opportunity to study the impact of visible and invisible divisions on movement and threat perception. The potential impact of each site's location and distance to key arterial routes and to the city centre was another consideration. Ultimately, the five sites (see Figure 1) included: Tigers Bay/New Lodge, a working-class neighbourhood on the edge of the city centre divided by a peace line; Ardoyne/Glenbryn, an area of high conflict-related tension lying along a major arterial route into the city centre; Glandore/Skegoneill, a neighbourhood known for its invisible interface, shared space initiatives and diverse socio-economic residents; Greater Whitewell, a peripheral community which lies at the northern edge of Belfast in Newtownabbey and is heavily dependent on motorway access for services, and Ballysillan/Ligoniel, an area near Cavehill, which features a range of class backgrounds in both its Protestant and Catholic communities.

[Insert Figure 1 near here]

The BMP methodology was designed to explore the relationship between perception and geographic behaviour in producing activity-space segregation in these

communities. In addition to developing a new theoretical approach that integrated work on 'time geography' and activity-space segregation with psychological work on intergroup contact and threat, the study aimed to explore and produce evidence on sectarian patterns of segregation as well as the conditions that promote spaces of integration. The intent was to create a template for policymakers interested in translating dynamic, bottom-up data into urban planning processes. Accordingly, the overall project utilized three key methodologies: 1) *Paper-based questionnaires*. These surveys, carried out with 520 people, probed participants' experience and perception of threat as well as their past engagement or contact with the 'other' community and inclination to use spaces outside of their home territory; 2) *Mobile phone GPS tracking*. A smaller sample of research participants – 263[4] – downloaded the Belfast Pathways app to their Android smartphone and agreed to have their public movements recorded via GPS tracking for a two-week period; 3) *Walking interviews*. These GPS-tracked interviews, completed with 33 research participants, probed the impact of community divisions and symbolic landscapes on perception and use of space.

The following sections consider the BMP's application of GPS tracking and *in situ* walking interviews. Here we explore issues of particular salience to research using these methods in a highly divided environment. Again, the aim is not to focus on empirical data outputs, but rather to consider the challenges and opportunities presented by this combination of approaches.

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[4] Data only registered for 233 of these individuals.

Centrality of Mobile Methods to Understanding the Divided Landscape

Tracking on GPS-enabled Smartphones

Scholars have highlighted the need for precise methods when investigating the 'micro-segregations' of daily life (Dixon and Durrheim 2003). A growing number of studies are moving away from relying on static-based methods that measure indicators of segregation to more fluid, GPS-based methods that capture human mobility patterns in real-time as they unfold during the course of an individual's day-to-day activities (Palmer et al. 2013), thereby enabling the production of quantifiable, time-space behavioural data. Data generated by GPS traces is easily mapped using GIS, which allows differences between and among groups in the use and experience of geographic space to be represented and analysed (Kwan and Kotsev 2015).

The BMP recorded people's activity spaces in real-time via GPS tracking. Of the initial 520 people who completed the paper-based survey, 263 of these individuals agreed to download the Belfast Pathways tracking app to their GPS-enabled Android smartphones. Though limiting the sample to Android users impacted the scope of recruitment, utilizing a smartphone app as opposed to a handheld GPS tracker helped ensure that participants would be more likely to keep the device with them at all times (Montini et al. 2012) and also, in our view, to charge it, given the pervasive dependency on and access to personal smartphones at all socioeconomic levels among adults in the U.K. (Ofcom 2017). The app ran 'in the background' and thus no action was required on the part of the participant other than to keep their phone charged -- though if desired, they could delete or pause the app, which automatically restarted after a specified length of

time. The decision to make the app as unobtrusive as possible, in our view, maximized

the likelihood that the participant's movement patterns would reflect their normal routes.

That the app was self-launching and uploaded data to a central server only when the

device came in contact with WiFi was a design choice intended to ensure participants

were not charged for uploads, a key consideration given the widespread deprivation in

many of these areas. Once the tracking points were cleaned and processed the data

allowed for the identification of areas of segregation and sharing (see Figure 2), routes

taken by members of particular communities when accessing services and facilities, and

also the analysis of how much time was spent in areas dominated by members of the

other community and whether this varied depending on time of day or gender (Davies et

al. 2017). This data also allowed the possibility of exploring relationships between

contact experiences and senses of threat (as reported in the initial paper survey) and

people's actual spatial behaviour, as demonstrated by their tracks.

[Insert Figure 2 near here]

Narrating the Landscape via Walking Interviews

Place-identity relationships provide a crucial window into how segregation and

desegregation are experienced, with the 'identity-affirming qualities' of place a key

aspect in understanding these processes (Dixon and Durrheim 2004, 471). As Riley

(2010) has noted, 'emplacing' the interview encounter may facilitate 'more hidden, non-

verbalized understandings' thereby shedding light on the 'micropolitics' of the spatial environment (659), with the side-by-side nature of walking interviews allowing the 'narratives to become more co-constructed' and less formal in nature (657). The 'mobilities' turn in the social sciences has further underscored the centrality of this 'mobile sense-making' (Jensen 2009, 139) and thus the need for researchers to immerse themselves in subjects' 'modes of movement' (Sheller 2014, 801) to better understand the 'mobile' and 'performed' nature of the 'constitution of place' (Stroud and Jegels 2014, 183). Here, the 'proximity to and visibility of features' (Evans and Jones 2011, 854) serve as crucial 'prompts' (856) in accessing the 'micro-geographies of meanings' to be gleaned from residents' local knowledge (Bergeron, Paquette, and Poullaouec-Gonidec 2014, 112).

Likewise, in researching divided societies such as Northern Ireland, landscape features contain social-psychological triggers, which help explain why segregation patterns occur. As Shirlow and Murtagh (2006, 9) observe, in Northern Ireland, the landscape serves as '"an aide-memoire" of harm done and threat unstated', and thus is vital to exploring broader patterns of division. While walking interviews clearly 'exclude certain types of participants' (Evans and Jones 2011, 849), such as people with limited mobility, and are arguably less effective when it comes to eliciting certain types of autobiographical information, they nevertheless remain a vital means to penetrate 'a local community's connections to their surrounding environment' (857), capturing elusive, and formative, place-identity relationships. In turn, this information can inform both public planning processes and private sector investment deliberations that aspire to sustainable and equitable development (Evans and Jones 2011). Such methods hold the potential to

empower ordinary citizens in the urban decision-making process (Baibarac 2015, 275), a crucial advantage for cities seeking to rebuild trust among citizens as well as to restore fractured urban landscapes.

The walking interviews, carried out with 33 respondents,[5] were developed to extract different types of information. The first component of the interview took place in the participant's home. This section took the form of a biographical overview of each individual's family and community background, including the composition of social networks and their proximity to these networks. It also looked at the individual's historical relationship with the neighbourhood, such as how they had come to live in the area and the length of time spent there, as well as the type of activities they typically engaged in. This section of the interview sought insight into the participant's life history and level of identification with their neighbourhood, thereby revealing how personal and communal identities impacted their respective routes and perception of the local geography.

After this indoor portion was completed, each participant was asked to imagine themselves as a 'tour guide' taking the visiting researchers on a typical journey or walk through their local area, with a focus on how living in a divided part of the city affected

[5] The 33 walking interview participants were selected from the initial group of 520 who completed the survey based on their desire to participate, overall aptitude and ability to take part in a walking interview. Although every effort was made to ensure a representative breakdown in terms of gender and sectarian background as well as roughly equal numbers of participants across the five sites, we were somewhat limited in this aim by participants' willingness.

their daily lives and activities. These semi-structured interviews, conducted by two researchers employed by the project, were roughly broken down along themes focusing on identity, symbolism and affect, community composition, and access to facilities and services (see Figure 3). While one researcher conducted the interview, which was audio-recorded, the other took geo-located photos of features significant to the participant's narrative. This allowed us to document the role of visual aspects, such as murals, flags and memorials in telegraphing senses of threat and belonging, and in many instances also contributing to the maintenance of activity-space segregation patterns. This evidence was crucial since the walking interviews occurred in highly marked territories defined by the spatialization of sectarian identities, with local participants distinguished by their ability to read the landscape and articulate its meanings for their mobility choices. It should be noted that the mode in which these neighbourhood 'walks' occurred conjured different responses and data about the environment. For instance, three of the 33 walking interview participants requested (for health or emotional reasons) that they take the researchers on a typical drive (as opposed to a typical walk). While the walking interviews on foot revealed intimate, nuanced detail about immediate segregation dynamics in the environment and the symbolic and practical effects of visual markers, the automobility of the interviews in cars, while arguably offering less detailed accounts, helped to contextualize and integrate the relationship between the local landscape and the city's broader sectarian patterns. This helped to demonstrate how divisions among and between places impacted one another across space and time.

[Insert Figure 3 near here]

As indicated in the following excerpts, the walking interviews helped shed light on how practices of segregation are bound up in mobility choices. As one Catholic resident of the Ardoyne neighbourhood explained, his day-to-day movements were highly constrained by fear of encountering members of nearby Protestant areas (interview, 25 Feb. 2016).

> **Interviewer**: Talking about worrying about interacting with the other community, are there times when you would alter your route in order to avoid passing close to them?
>
> **Respondent**: All the time.
>
> **Interviewer**: And can you show or tell us any place in particular that would actually maybe be more convenient but you make a point of avoiding it because you would rather not have to have an encounter?
>
> **Respondent**: Well, probably the best [examples] are down there at Twaddell Avenue. …Obviously people, the likes of myself would avoid the [Protestant] Shankill Road. Again, probably people from the Shankill would avoid -- what do you call it – the [Catholic] Falls Road.

In a similar manner, an interviewee from adjacent Protestant Glenbryn asserted that he did not patronize a set of nearby shops, despite their convenience, 'because it's in the Catholic area. It doesn't feel comfortable enough to go in down to them shops. I just would feel too vulnerable to go into them shops' (interview, 11 March 2016).

Methodological issues encountered

Accessing the 'post-conflict' field site

The continuing presence of paramilitary groups, such as the loyalist Ulster Defence Association (UDA) and Ulster Volunteer Force (UVF) in Protestant communities, as well as a variety of splinter republican paramilitaries in Catholic areas, is a key challenge faced by researchers in Northern Ireland (Wilson 2016). Accordingly, researchers in Northern Ireland must contend with multiple layers of division, not only related to broader Catholic-Protestant divisions and the political 'sub-divisions' present in each group, but also to internal community divisions related to the presence of paramilitaries in so-called single-identity communities and their role in determining access to participants in these areas (Feenan 2002). As Peach (1996:144) has noted, the high-level of segregation in such neighbourhoods 'reverses the power structure of outside authority' and circumscribes its freedom to act. Due to these conflict-related socio-spatial dynamics, and the varying layers of official and unofficial local control they suggest, recruiting participants presented the first challenge for the BMP. To lay the groundwork for the study, the researchers, beginning in August 2015, met with dozens of individuals from a range of community groups across North Belfast that had previously worked with the Institute for Conflict Research, a local peace-building NGO and a partner in the BMP. These 'gatekeepers', due to the intensity of spatial territorialization in their areas (Jarman 1997), are often reluctant to cede control over spatial dynamics in Northern Ireland (McAreavey and Das 2013), a dynamic evident throughout our fieldwork. For example, while recruiting in a North Belfast neighbourhood, researchers found themselves watched

by individuals with known links to a local loyalist paramilitary organization. While the researchers passed by these men (after offering a cursory greeting) without incident, their presence served to indicate that the researchers would be under unofficial surveillance. With many of these neighbourhoods experiencing ongoing internal divisions related to paramilitary feuding (Gallaher 2007; Hall 2011), community centres and youth clubs, where participants might typically be recruited for a study such as ours, also served as micro sites of contestation and control in the wider conflict, and in some cases were seen as tied to certain factions within a neighbourhood. One research participant, for instance, indicated that a youth club in Glenbryn was perceived to be the preserve of a loyalist paramilitary group (interview, 11 March 2016). Moreover, in an attempt to recruit volunteers in more anonymous ways, researchers also placed recruitment notices in public places, such as a local library, on the Facebook pages of community groups, and in a prominent community newsletter. Attempts to recruit people in this manner, i.e., letting people come to us if they were interested in participating, did not net a single participant, an outcome we suggest is linked to general public apathy, research fatigue in areas that have undergone conflict and the abundance of scholarly interest the Northern Ireland conflict has attracted, as well as high levels of suspicion of outsiders encountered across these neighbourhoods.

 [Insert Figures 4a and 4b near here]

Though some volunteers were recruited via community group meetings as well as local churches, the primary line of engagement proved to be door-to-door canvassing.

This was a labour-intensive approach, but one that allowed us to facilitate direct face-to-face interaction with residents in their homes. Going door-to-door enabled us to include people unlikely to be involved in community groups, people alienated from the conflict-related power structures in their neighbourhoods (often controlled by paramilitaries), as well as people with limited exposure to (or confidence in) wider civic activities. Participants without Android smartphones could still opt to take part in the survey and walking interview and those with health or emotional issues were given the option of driving interviews if requested.

Ultimately, researchers spent nearly a year – from February 2016 to December 2016 recruiting volunteers for the study by knocking on roughly 14,000 doors across the five study sites in North Belfast. It is important to note that 2016 was a highly charged period for Northern Ireland due to two major -- and potentially contentious -- centenary commemorations, which highlighted the fault lines of the Catholic-Protestant divide. These were the 1916 Easter Rising of Irish nationalists against British rule in then-colonial Ireland, and the 1916 Battle of the Somme during World War I, in which a disproportionate number of Northern Irish Protestants lost their lives. At the outset of fieldwork there were concerns that these wider sectarian commemorations would enflame tensions on the ground and negatively impact on the ability to recruit, though this was subsequently not found to be the case. Likewise, episodic violence, including the murder of a Catholic man in Ardoyne by dissident republican paramilitary members in April 2016, did not have a significant impact on recruitment rates.

Nevertheless, ongoing conflict-related dynamics, including fears that participation might result in reprisal by paramilitaries, was a factor influencing certain individuals'

willingness to take part in the study. In one house in Tigers Bay, for instance, a woman said her sister had her car burned and had been forced to leave the area because she did cross-community work. 'This used to be a nice place to live,' the woman said. 'Now you are more afraid of your own community than the other community'. As such, she declined to take part in a walking interview. 'Not if I want to keep me windows', this woman asserted (personal communication, 10 Oct. 2016).

Similarly, during fieldwork in Ardoyne/Glenbryn, the existence of an ongoing protest camp at the Twaddell Roundabout, set up to contest restrictions placed on a loyalist marching route (the camp was later disbanded in October 2016), cast a pall over recruitment among Protestants in the area, where researchers encountered a cold response at doors and at first had significant difficulty securing a walking interview participant. More generally, as recruitment progressed, due to the insular and protective nature of many of these communities (Feenan 2002), researchers confronted suspicion related to their activities. One day in Ardoyne, the researchers were spotted by a local man, who came running down the street, aggressively demanding, 'What are youse about?' In that instance, the fact that the male researcher had relatives from the area calmed the man and after a short discussion about the nature of the work he left them to proceed. Meanwhile, during another encounter a participant declared that all researchers 'were spooks, sent here by the British government to collect information on us' (personal communication, 2 March 2016). Likewise, researchers confronted their own preconceptions and unintentional biases related to the safety of certain areas. For instance, they initially avoided entering a series of tower blocks in the New Lodge due to their 'rough' anecdotal reputation and perceived paramilitary sympathies. However, subsequent recruitment in

these tower blocks, some of which still featured pro-republican images and slogans, upended these perceptions, with recruitment proceeding there in a positive and productive manner.

Ethics of engagement

The ethical principle to 'do no harm' is intensified by the delicate security context within which many potential participants may reside (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research 1979). Researchers must be mindful that communities who have been exposed to conflict are often highly vulnerable, a consequence of the associated physical and mental distress of living in violent contexts (Ford et al. 2009). In addition, basic ethical protocols confront greater challenges in divided societies. For instance, the need to secure informed consent is complicated by the level of risk the individual's participation may entail (Leaning 2001), especially in areas where group loyalty and community silence are widespread due to residual conflict-related dynamics (Mcgrellis 2005; Shirlow 2003b).

To address ethical concerns, a study information sheet and a 'Frequently Asked Questions' overview, detailing the purpose/scope of the tracking app as well as the app's impact on Android phones and protocols for the storage/use of the data was distributed to participants. After reading the information, individuals had the opportunity to ask questions and signed a consent form, which gave them the option of withdrawing their data up to two months after participation. Tracks were anonymized, including the removal of points near a participant's home location, to assuage the obvious privacy concerns and security risks such work raises (Nebeker et al. 2015; Palmer et al. 2013).

Still, the tracking component of the methodology, particularly in a society with a legacy of security force and paramilitary surveillance of certain populations (Hillyard 1997), remained problematic for some throughout the fieldwork, with several potential recruits citing privacy concerns, and in one case even the safety of their children, in their refusal to participate. As such, recruiting individuals for this portion of the study proved the most challenging, as well as the most sensitive, given the power imbalance such surveillance of subjects, irrespective of consent, necessarily entails (Dobson and Fischer 2003). And Mcnamee (2005) has noted that scant research has explored how tracking makes consenting research subjects feel. Indeed, off-hand comments made by participants suggest that these individuals were aware that their movements would be subject to third-party scrutiny. It was not uncommon for an individual to declare that their wide-ranging mobility would differentiate them from their less mobile neighbours because 'I go everywhere'. Alternately, others, pointing to the intense immobility of residents in their segregated neighbourhoods, would apologize in advance that their tracks wouldn't be 'very interesting'.

In contrast, though the walking interviews were also tracked so as to have a precise record of the route taken, it was the surveillance of other 'eyes' on the street, which proved potentially troubling to individuals taking part in the interviews. The attention attracted by the presence of two 'outsiders', one of whom was taking photographs, while the other held an audio recorder and asked questions, posed an obvious concern for some, thus raising the importance of researcher reflexivity in a divided context. Komarova and McKnight (2012, 2013) have underscored the role of researcher behaviours in framing spaces of conflict in Belfast in particular ways as well

as in drawing out different responses from their subjects. That study design impacts outcomes, with researchers shaping and being shaped by the fieldwork experience (Palaganas et al. 2017) was evident throughout our research. It should be pointed out that the mere presence of BMP researchers in some instances impacted the routes chosen by participants and impacted the findings. Subjects occasionally ventured into areas across the sectarian divide they admitted were outside of their normal activity space, or alternately, felt responsible to show the researchers particular sites of interest or contention for their community, a likely response to instructions that they imagine themselves as 'tour guides'. While these deviations from a typical journey likely occurred due to the researchers' presence, they also revealed insights into 'no-go' areas for participants that might otherwise have gone unremarked, or alternately, provided valuable local knowledge about key aspects of the social landscape. Here, and throughout the study, our mixed-methods approach underscored the reciprocity of the research process (Palaganas et al. 2017) and the myriad ways that the meanings, which govern the use of public spaces in North Belfast, were both socially constructed and predominantly determined by ethno-national background.

Finally, though the Northern Ireland conflict has been mostly reduced to low-level and episodic violence, researchers in the field there risk exposure to potentially violent situations, due to factors ranging from the presence of paramilitaries to widespread fear and suspicion of outsiders in working-class neighbourhoods, not to mention newer, deleterious trajectories to emerge on the 'post-conflict' terrain, such as the rise of anti-social behaviour among youth street gangs and a growing drug trade (Reilly 2011; Sturgeon 2011). To address researcher safety concerns, fieldwork was carried out in

pairs, an approach advised by Knox (2001) – and as researchers went door-to-door, they kept in constant contact with one another via text messaging and calls. They also used public transport to access the sites and with few exceptions carried out recruitment during daylight hours.

Still, as noted, suspicion of 'outsiders' can be 'intense' and potential Northern Irish respondents often seek clues of religious affiliation based on the researcher's name, accent and physical appearance (Knox 2001), a dynamic both researchers confronted in North Belfast. For instance, with first names in Northern Ireland widely associated with particular community backgrounds, the male Northern Irish researcher was subject to comments related to his perceived Catholic background. In this vein, one man in a predominantly Protestant neighbourhood, after declining to participate in the study, went on to chastise the male researcher for 'coming round here with that name, rapping doors' (personal communication, 24 February 2016). Meanwhile, the female researcher, an American, was harder for participants to pigeonhole, though that didn't stop them from trying. Comments such as 'I won't ask you what religion you are, I don't care what religion you are' (personal communication, 2 September 2016), or 'Are you an Irish American?' (personal communication, 13 December 2016) served as loosely veiled attempts to establish the female researcher's religious background.

Gender

The legacy of conflict meant that men (more likely to be targeted as potential combatants and displaying clearer senses of geographic boundaries beyond which their safety was in

question) exhibited significantly more 'mastery of the landscape' and were more likely to participate in the walking interviews than were woman. Male walking interview participants were eager to show off their extensive and thorough knowledge of the local geography. At the same time, men were also more likely to raise privacy concerns related to aspects of the BMP, and as such, were far more reluctant to download the app and have their movements recorded.

Meanwhile, women were more receptive to both the survey and the tracking app, and appeared more willing to cede privacy for a greater good such as a research study. Mothers with young children at home also seemed especially open to requests to participate, a factor we attributed to the isolating nature of childcare responsibilities. It should be pointed out that female participants were generally less sure of themselves spatially, and this was reflected in their walking interviews. Not only did women cancel already-scheduled walking interviews more frequently, but though more women were asked to participate in these interviews, fewer agreed to do so, and when they did agree, these interviews tended to be shorter and less expansive. Still, women expressed far less fear of walking into the other community's perceived territory than did men, who in some instances, would literally 'freeze' as they approached an interface.

That aside, women in North Belfast, in line with traditional expectations, exhibited more dominance in the home. During initial canvassing, researchers were frequently met at the door by a male resident who immediately excused himself to go fetch his wife or partner -- or, if she was absent, told the researcher to return at a time when the female would be present, as 'she'd be the one to see', a comment which supports the perception that women wield greater control over domestic spaces.

Interestingly, males without a partner were also less likely to participate in the project, with several noting that they could not do so, as 'I'm on me own'.

Similarly, the nature of the data elicited from a divided society was also shaped by the respective genders of the two researchers. There were repeated attempts by participants from both communities to impress the female researcher with the severity of pain suffered by their respective group during the conflict, and thus she, unlike the male researcher, was subject to numerous stories of death, tragedy and injustice, likely attributable to both her gender and nationality. As a woman, she felt an expectation to listen and comfort; while as an American she was widely viewed as a neutral outsider, albeit one who could be potentially swayed in favour of one community or the other (see Hammersley and Atkinson (1995) on how 'outsiders' and 'insiders' elicit different types of information from their subjects and Patton (1990) on participants' propensity to attempt to gain sympathy for their cause from obvious 'outsider' researchers). The female researcher therefore carried more emotional labour (and accordingly had to take care, as Palaganas et al. 2017: 432 warn 'not to be taken away by elicited emotions'), but was granted more access into the social-psychological dimensions of people's lives in return. Meanwhile, the male researcher experienced more limited, transactional interactions with potential participants, who were far more guarded in revealing their interior thoughts to the 'male stranger' at the door, a finding in line with behaviours described by Durrant et al. (2010) when discussing the impact of researcher characteristics on the level of cooperation received, particularly from female participants.

Logistics

Mobilities research encounters particular logistical hurdles in a divided landscape. In the following section, we lay out technological and practical issues that researchers confronted.

Technological Challenges

Due to a combination of financial restrictions and Apple platform limitations, the Belfast Pathways tracking application was only developed for the Android platform. While Android had the largest market share of mobile operating systems during the study period, this nevertheless limited the number of participants who could take part in the research, with some willing individuals unable to take part because they did not have an Android device. Similarly, the reliance on participants to provide a smartphone necessarily reduced the likelihood of participation by certain demographics, such as the elderly. Nevertheless, though mobile phone trackers may exclude some members of some social groups, as noted, there is evidence that smart phone use is increasingly the norm among UK adults (Ofcom 2017). Of the 263 participants that downloaded the tracking app, 233 successfully recorded data, with the remaining 30 participants failing to do so largely as a result of older or poorer quality devices forcing the tracking application to close in order to preserve limited memory, battery and processing resources.

Data generated from the app was then cleaned, anonymised and automatically processed to separate out 'tracks' from 'stops' (Davies et al. 2017). 'Stops' were defined as any location where the participant was stationary for more than two minutes, and each

'stop' was then manually attributed with a destination type using information from Ordnance Survey of Northern Ireland (OSNI) maps, the Belfast City Council database, Google Maps and Google Street view. Nevertheless, accuracy limits of the GPS data combined with the close proximity of different types of facilities made it challenging to attribute the trip purpose in some cases.

Practical Challenges

Recruiting, managing and maintaining contact with an uncontrolled research sample whose participation was both voluntary and contingent on broader security and social dynamics proved challenging. Participants sometimes changed their minds and withdrew from the study for any number of reasons, including fear of surveillance (represented by the tracking app) and the perceived potential for neighbourhood reprisals (should they be seen participating in a study with known 'outsiders' during the walking interview). Participants also deleted the app prematurely due to worries over battery usage or storage limits. Economic insecurity further constrained residents' ability to take part, despite researchers' willingness to reschedule at any time or day that suited the participant. The erratic demands of zero-hour contracts, not uncommon in deprived inner-city North Belfast, led at least two participants to cancel walking interviews at the last minute. In these instances, we found that once the initial appointment had been cancelled, participants did not respond to repeated inquiries to reschedule.

Finally, the issue of over-research in Northern Ireland occasionally impacted potential recruits' willingness to participate. Some cited the lack of results wrought by previous participation in scholarly research as a reason to refuse, or even confused us

with other researchers working in the same area as us. While research fatigue in Belfast is hardly unique to this study (Feenan 2002), going door-to-door did at least offer the greatest possibility to reach individuals not usually represented in scholarly work that depends on community groups or other 'official' organizations to deliver research participants.

Discussion: Mobilizing the Divided Field Site

Applying a 'mobilities' paradigm to a 'post-conflict' context presents researchers with a unique set of challenges and opportunities for undertaking 'live' (Sheller 2014) social-psychological investigation. Gaining access to the 'post-conflict' field site and engaging with potential research participants comes with attendant risks and hurdles in a divided society, where the wider social context impinges on both access to and cooperation of potential respondents, some of whom will remain deeply suspicious of outsiders after years of conflict in which the archetype of the 'stranger' evoked potential threat (Shirlow 2003b) and the residual presence of paramilitaries or other armed gangs serves as a 'chill' factor in residents' willingness to participate (Knox and Monaghon 2002). Worries about being seen in public conducting walking interviews with obvious outsiders are another challenge to securing research participants. Likewise, researchers, while remaining sensitive to these factors have to work to overcome their own prejudices and fears about working in areas associated with violence and vigilantism. These very human fears may be exacerbated depending on the nature of society in which research is undertaken – for

instance, in a setting where polarized racial or religious groups are more visibly different on the ground.

Nevertheless, a mobilities approach to research in post-conflict societies offers a unique set of advantages for those investigating the connection between perception and spatial behaviour in a segregated context. For instance, while fear and suspicion constrained some participation, other locals were eager to take part in research aimed at promoting integration. Many of our respondents came to the study with a heightened and highly detailed geographic knowledge, albeit sadly honed by years of fear and the concomitant spatial awareness the security environment required. Recruiting participants in their home environments via door-to-door canvassing also provided researchers access to a rich tapestry of informal commentary on a range of issues impacting local mobility. These so-called 'hidden transcripts' (Scott 1990) shared with researchers in domestic spaces served as a vital unofficial source of information related to senses of identity, community interaction and symbolic threat.

Meanwhile, *in situ* walking interviews shed light on features, which encourage individuals to cross into the 'other' community's territory. Thus, 'emplacing' the interview experience via mobile, respondent-led walks of their local areas not only enabled us to observe visual evidence of evolving socio-spatial dynamics, but elicited commentary from respondents on the impact these features had on their comfort levels in the wider environment. Notably, the walking interviews also reflected the high level of comfort some respondents associated with their single-identity landscapes and thus the need to recognize that desegregation is far from universally embraced as a desirable end point across all communities. As one Catholic participant observed: 'Living in a divided

community, it's, it can be strenuous, it can be hard, but because you have that community

spirit, you have that bond. … It's like a family' (interview, 25 February 2016).

Finally, our efforts to mobilize the divided field site were immeasurably aided by

GPS and GIS technologies, which allowed us to quantify and visualize how real-time

movement is impacted by wider segregation patterns, as well as how those movements

reinforce broader socio-spatial polarizations. Respondents' GPS tracks showed how

movement patterns leave behind invisible segregation traces that also cognitively divide

in a 'post-conflict' society – that is, research participants' real-time movement patterns

were heavily influenced by the dominant community background of a given area, with

North Belfast marked by high levels of activity-space segregation and limited use of

spaces located in the 'other' community. Combined with qualitative evidence from the

walking interviews, the GPS tracks helped to demonstrate how everyday spatial activities

are constrained by the broader sectarian geography, with segregation levels linked to

place-identity relationships, that is, the sense of belonging and attachment associated with

some spaces, as well as the sense of exclusion and alienation present in others.

Recording people's daily movements also provided clear evidence of the effects

of conflict on activity-space segregation, ranging from the impact of peace walls on

constraining or routing movement in particular ways to a general avoidance of contact

with areas known to have a high residential population of the 'other' community. Precise,

technologically aided methods such as these enabled a closer reading of the micro-

segregations that occurred in otherwise 'shared' city spaces (e.g., a shopping centre used

by both communities but accessed and exited through different gates or a popular local

park divided by a security barrier). These methods also pointed to instances where the

existence of particular services and facilities, such as an early education SureStart centre, could serve to inject spaces of social mixing into otherwise single-identity neighbourhoods.

Accordingly, the study highlights the challenges of methodological innovation in a segregated 'post-conflict' context but also provides a roadmap forward for additional work not only in Northern Ireland but also in polarized cities around the world from Chicago to Sarajevo. Mobile interviews merged with large-scale GPS tracking of participants create space for greater public participation in the urban planning and regeneration process (assuming such data is visualized in accessible and shareable platforms). This research may also contribute to wider conflict transformation processes by pinpointing both chill factors and spaces of opportunity. Such information can be used as a basis to undertake more in-depth studies into the spaces under consideration, weighing the characteristics of areas of spatial mixing, or what we view as the 'mobility carrots' in the urban environment that encourage people to cross boundaries, as well as pinpointing those factors, or 'mobility sticks' that diminish boundary crossing. Finally, the BMP methodology can be applied to a range of specific demographics from schoolchildren and young men in street gangs to minority populations and other at-risk groups, improving our understanding of the connection between social-psychological factors and the actual observed use of urban spaces. Armed with this knowledge, policymakers can potentially help to break down lines of division between and among segmented populations, contributing to the formation of a more integrated civic body and ensuring that the concerns and input of such groups are at the heart of the urban planning process.

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No potential conflict of interest was reported by the authors.

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Amended Captions List: Negotiating the Ground

Figure 1. The five sites examined during the Belfast Mobility Project.

Figure 2. GPS tracks of Protestant and Catholic residents overlaid on Protestant and Catholic areas in North Belfast shed light on the relationship between mobility and segregation patterns.

Figure 3. Walking interviews with residents from Catholic and Protestant areas in Ardoyne/Glenbryn demonstrate markedly different, and highly segregated, movement patterns. Here, two research participants comment on the importance of community, symbolic threat and shared space to their respective socio-spatial landscapes.

Figures 4a and 4b. References to local paramilitaries dot the North Belfast landscape, telegraphing both symbolic and real threat, as well as senses of belonging/exclusion. A reference to the dissident Real IRA (Figure 4a) marks a wall in the Catholic Ardoyne. Meanwhile, a memorial plaque and mural in the Protestant Woodvale (Figure 4b) stakes out space to honour members of the loyalist Ulster Freedom Fighters paramilitary.

Photos courtesy of the authors.