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journals.sagepub.com/home/qri**Bianca Fileborn** 

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Abstract

Digital maps have been taken up as a productive tool in both activism and academic research. However, there has been less consideration of their use as a research method in qualitative social sciences research. This paper aims to contribute towards scholarship on qualitative research by providing a critical reflection on the use of digital mapping as a research method in a feminist research project on street-based harassment in Australia. Drawing on practices of reflexivity, as well as comments made by participants across 46 qualitative interviews, I consider how digital mapping can be used to facilitate feminist research, arguing that it represents a generative instrument which lends itself to the development of in-depth insights from participants. Yet, mapping also delimits the epistemological possibilities of qualitative research, and I consider how this method simultaneously constrains what can be known about street harassment.

Keywords

Digital mapping, participatory mapping, Google maps, street harassment, feminist research, qualitative, affordances, critical cartography

Digital mapping as feminist method: critical reflections

Digital maps now represent a mundane part of daily life for many of us. Tools such as Google maps and GPS devices are often taken for granted in helping us navigate new and unfamiliar places. Digital mapping has also been harnessed by feminist (and other) activists to document previously hidden or ignored experiences, such as public or street-based harassment (Abdelmonem and Galán, 2017; Desborough, 2018; Fileborn, 2020). While mapping as a method itself is not new – having well-documented use in research across disciplines and from a wealth of different methodological perspectives (see, e.g. Allen and Queen, 2015; Clark, 2011; Hall and Smith, 2014; Nordtug, 2020; Suddick et al.,

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2020; Sweet and Ortiz Escalante, 2017) – the use of digital mapping and its application in qualitative social sciences research remains under-examined.

This paper aims to contribute towards the literature on qualitative methods through a critical reflection on digital mapping in the context of a feminist project examining the phenomenon of street harassment. I mount an argument for the use of digital mapping in feminist research and consider the ways in which this research tool simultaneously adheres to and departs from feminist research principles. From there, I critically interrogate the epistemological possibilities of digital mapping. What does this method enable us to know about participants' experiences, and how is this knowledge both co-produced and delimited by platform affordances? Before exploring these questions, I locate this project within the literature on digital cartographies and feminist methodology, then provide an overview of the research. In closing, I argue that digital mapping can provide a generative and participant-centred tool for conducting research in line with feminist principles, though its use must be accompanied by a keen understanding of the epistemological specificities and limitations of mapping in knowledge production.

Digital and critical cartographies

Using digital mapping as a method within this project was informed by scholarship on digital and critical cartographies. Traditional (positivist) approaches to mapping view maps as presenting some essential, unbiased truth about the world vis-à-vis the representation of space. That is, maps are simply depictions of a space as it is, rather than a process of representation actively shaped by the decisions and socio-political location of the mapmaker. Critical cartography challenges the assumption that maps are (or can be) neutral and objective artefacts. Instead, critical cartographers posit that maps reflect and reproduce certain relations of power and ways of knowing, with mapping always-already (re)producing space in a way that is partial and situated (Bittner et al., 2013; Kitchin and Dodge, 2007; Kindynis, 2014; Sweet and Ortiz Escalante, 2017).

While maps can be implicated in the (re)production of dominant relations of power and oppression, they can equally be used by marginalised groups to expose, challenge, and disrupt dominant power relations and representations of space. Such disruptions can be achieved through the practice of counter-mapping. Counter-mapping functions as a form of 'mapping from below' or 'mapping from the margins', in that it aims to 'reframe the world. . . to articulate alternative, subversive and marginalized interests' (Kindynis, 2014: 222). Counter-mapping can include challenging the form that maps take, what is mapped, and whose interests and experiences are reflected in the production of maps. Further, the affordances of Web 2.0 or digital cartographies have presented possibilities for counter-mapping in providing readily accessible tools for creating and disseminating maps, circumventing the traditional gatekeepers of mapping (Bittner et al., 2013). Moreover, Web 2.0 cartographies are fluid, dynamic and emergent – constantly in the process of (re)production as users add to digital maps over time (see also Salovaara, 2016).

As I have argued elsewhere, the use of mapping to document incidents of street harassment can be viewed as a form of counter-mapping (Fileborn, 2020). By allowing individuals to share and document their experiences by dropping 'pins' on digital maps,

activist groups such as Hollaback, the Bristol Street Harassment Project, and HarassMap work to contest dominant constructions of harm. They make visible an experience that is typically excluded from state-sanctioned crime surveys and often dismissed as a trivial occurrence, and instead position street harassment as a harm that is worthy of recognition. In turn, mapping may have the potential to inform government policy and other efforts to prevent street harassment and reduce fear in public spaces. However, this is not to suggest that feminist uptake of digital mapping is unproblematic. While digital mapping *can* be used to challenge dominant power relations and ways of knowing, it can equally reproduce other relations of power or function in reductive ways (Bittner et al., 2013; McLafferty, 2005). In the case of mapping street harassment, this activism could feasibly be used to justify the expansion of state power and surveillance of marginalised groups, and/or be implicated in the (re)production of urban spaces as sites of fear (see Fileborn, 2020). Indeed, many of these limitations were apparent in using digital mapping as a method, something I return to momentarily.

Scholars have outlined how both digital and hand-drawn mapping techniques can be harnessed in feminist and queer projects (Boschmann and Cubbon, 2014; Kirby et al., 2021; McLafferty, 2005), including that on gender-based violence (see Datta and Ahmed, 2020; Sweet and Ortiz Escalante, 2017). As one example, Datta and Ahmed's (2020) research on violence against women in India used digital mapping and GPS alongside interviews to illuminate 'the hotspots and blind spots of violence' in the research location, and the relationship of these to different forms of infrastructure (or lack thereof). In doing so, they drew attention to patterns of gendered violence, but also to the relationship of violence to spatial features which could in turn be addressed through government policy and gender-sensitive urban design. The potential benefits of mapping have been further demonstrated in other fields. For instance, Clark's (2011) contribution illustrates how photography-based map making with young children can be used as a form of 'multimodal communication' which works in concert with other modes of communication to develop a rich, layered account of participants' worlds. Mapping-based methods can therefore extend beyond identifying the physical locations associated with a particular phenomenon to shed light on the social and cultural production of space, and processes of meaning-making – it 'captures peoples' perceptions of places based on affective images. . . that attach feeling and meaning to a place' (Boschmann and Cubbon, 2014: 237).

Project overview

A digital mapping exercise was used as part of a three-phase qualitative research project examining victim-centred justice responses to street harassment. The first phase of the project involved a policy mapping exercise across Australia, the United States and UK to identify current policy and advocacy responses (see Fileborn, 2021). The third and final phase of the project is underway at the time of writing and consists of qualitative key stakeholder interviews. The second phase – of direct relevance to this paper – involved 46 semi-structured, qualitative interviews with 47 individuals¹ who had experienced street harassment. Interviews took a biographical approach and asked participants to reflect on their experiences of street harassment across their lifetime, the impacts of these

experiences, and their perspectives on how justice could be achieved in response to their experiences. Participants were recruited through a range of avenues, including paid Facebook advertisements, unpaid social media promotion, mailing lists and newsletters of relevant organisations (e.g. feminist groups, LGBTQ+ community organisations), and through word of mouth. In order to participate, participants were required to be aged 18 or over, to reside in New South Wales or Victoria in Australia, and to have self-defined experiences of harassment. The project aimed to recruit participants from diverse groups in relation to gender, sexuality, race, and disability. Ethics approval was granted by the University of Melbourne Human Research Ethics Committee.

The final sample consisted of 32 cisgender women, 5 cisgender men, 2 transgender women, 2 transgender men, 2 agender participants, and 1 androgynous participant. A majority of participants identified as heterosexual (24), with a further 10 participants identifying as bisexual, queer ($n = 6$), gay ($n = 4$), pansexual ($n = 2$) and lesbian ($n = 1$). Most participants were white ($n = 35$). Ten participants said they lived with a disability. Finally, most participants were age 26-35 ($n = 21$), followed by 18-25 ($n = 16$), 36-45 ($n = 6$), and 2 participants were age 46 or above.²

Prior to the interview, participants were invited to complete an online Google map exercise, the rationale for which is detailed in the following section. The mapping exercise was completed in 44 cases, with two participants electing not to engage with this part of the project. Although participants were able to produce a hand-drawn map if they preferred, none took up this option. Using the 'My Maps' function in Google maps, I created a new map for each participant. Each map was titled with a number to assist with maintaining participant anonymity. Once a new map is created, it can be shared by either creating a unique link, or by giving direct access by adding an individual's email address. Maps are not publicly accessible unless this option is selected, with the default setting ensuring that maps are private. Participants were provided with a link to an individual Google map, accessible only to the participant and researcher. An instructions document was also provided, which outlined how to use the features of Google maps. For example, My Maps allows users to 'drop a pin' on a specific location. In turn, users can give each pin a title, annotate it with written comments, upload images, and colour code the pins. Users can also draw lines on the map to illustrate travel routes. The instructions stressed that the mapping exercise was open-ended, and that participants could choose what to highlight – there was no singularly correct way to complete the task. Nonetheless, in order to make the task less overwhelming the instructions included some suggestions for things participants might consider in completing their map, such as locations where harassment is commonly experienced, locations where they had a particularly notable incident, and areas where they feel safe or unsafe. The instructions also included some tips on self-care while completing the mapping exercise, given the potential of this activity to cause emotional distress, and participants were also provided with contact details for appropriate support services.

Digital mapping and feminist research methodology

While the previous section outlined how Google mapping was used in this project, I move on now to outline the rationale behind its use and begin to critically reflect on the extent to which digital mapping achieved these aims in practice.

This project was broadly underpinned by feminist, queer and critical research methodologies. While these are, in many respects, diverse methodological approaches, they are drawn together in that they typically seek to centre the voices and experiences of marginalised groups, emphasise the role of power in shaping knowledge production, and resist essentialist and universal ontological claims (Brown and Nash, 2010; Harding, 2014; Hesse-Biber, 2007; Hill Collins, 2000). Accordingly, I resist the notion that the Google map exercise produced any stable or inherent ‘truth’ about participants’ experiences of street harassment. Instead, these maps are viewed as artefacts of a particular historical, social and political context, and as shaped by the platform affordances of Google maps itself (see also Allen and Queen, 2015). Further, participants’ maps must be understood as being produced in dialogue with dominant discursive constructions of street harassment, and I unpack these claims further in the following sections.

Moreover, these methodologies take the voices and experiences of oppressed and marginalised groups as the starting point for research and inquiry, recognising that these perspectives have traditionally been denied epistemic legitimacy (Harding, 2014; Hill Collins, 2000; Reinharz, 1992). This principle largely informed my decision to use the Google mapping exercise. As an open-ended exercise, the mapping aimed to afford participants autonomy and control. After covering some basic demographic and introductory questions during the interview, I asked participants to talk me through their map: to discuss what they had highlighted, and why. This approach helped to ensure that the interviews were led by participants’ experiences of street harassment, and what they felt was most important to discuss.

Taking street harassment seriously as a category of harm in and of itself challenges dominant institutional frameworks which by-and-large do not position street harassment as an issue warranting state (or other) responses (Fileborn, 2020b). As such, the mapping exercise functioned as a form of critical cartography, producing representations of space through incidents of street harassment which are *taken seriously as a form of harm*, and thus disrupting dominant discursive constructions of street harassment as largely trivial (see also Fileborn, 2020a). Digital mapping can be understood as a ‘politically engaged’ (Harding, 2014: n.p.) method that works to contest dominant relations of power, and by mounting claim to street harassment as a harm that deserves state and policy-based response. Rather than operating under the guise of neutrality, this project had clearly articulated social justice goals and advanced a form of political struggle in claiming the legitimacy of street harassment as a category of harm (Harding, 2004).

In-line with feminist research principles (Reinharz, 1992), I completed a Google map of my own experiences of street harassment as a genderqueer woman with substantive lived experience of street harassment across my life (see Figure 1). My Google map, and reflections on my own experiences of street harassment, are publicly available on the project website.³ This was intended as an act of transparency and of locating myself within the project. Reinharz (1992: 258) suggested that ‘many feminist researchers describe how their projects stem from, and are part of, their own lives’. This was undoubtedly the case in this project with my own lived experiences playing a formative role in my interest in this topic. Mapping provided a tool for making visible my positionality as a researcher. I do not research this topic from a neutral or objective position, and do not claim that such a position is possible. Articulating one’s social and political position

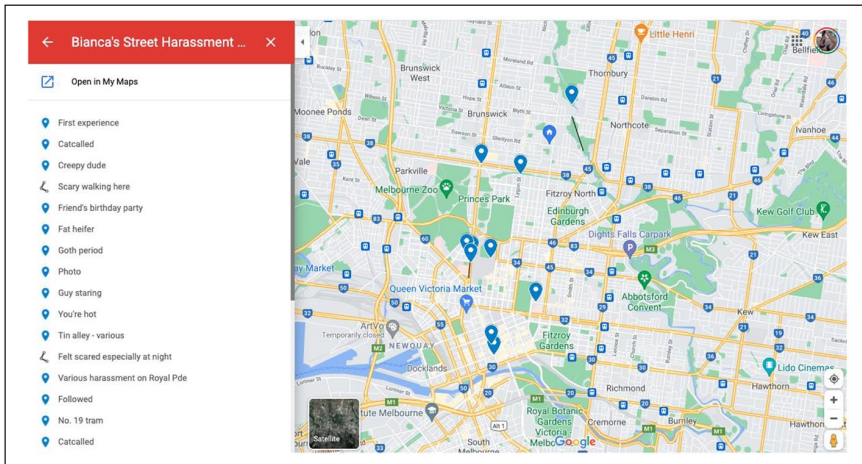


Figure I. Screenshot of the Author's Google map.

reflects what Harding (2004, 2014) terms 'strong objectivity', by attempting to illustrate how my socio-political location has shaped and (de)limited my approach to the research and the particular knowledge-claims produced (see also Hesse-Biber, 2007; Reinharz, 1992).

This self-mapping exercise also attempted to act as a form of reciprocity and sharing with participants (DeVault and Gross, 2007). Bryman (2004: 336) summarises feminist research as involving 'a high degree of reciprocity on the part of the interviewer; . . . [and] a non-hierarchical relationship'. In disclosing my own experiences of harassment (something I also did throughout the interviews, where appropriate), I aimed to disrupt the power relationship between researcher-participant by moving towards a process of mutual sharing and dialogue, rather than 'extracting' information in a one-directional manner. However, in doing so, I do not suggest that researchers are somehow obliged to disclose their own experiences of harassment and violence in order to adhere to feminist research principles. Rather, this was something that I felt comfortable and able to do given the nature of my own experiences, which were not overly traumatic or personally difficult to reflect on and publicly share. In order to avoid over-determining what participants did in their own maps I did not make my map publicly available until after Phase 2 interviews were complete. In practice, this may have limited the extent to which my map was *actually* reciprocal in nature, as participants are arguably less likely to return to the project website after their involvement in the research. Nonetheless, the affordances of both Google maps and the project website enabled me to engage in a form of reciprocity by allowing me to document and share my own experiences in a publicly accessible manner.

Finally, completing my own map provided insights into the process of participating in the project – an opportunity to take part as a researcher-participant, at least in a small aspect of the research. Developing my own map provided first-hand insights into the affordances, limitations and frustrations of completing this exercise, many of which

participants also commented on throughout the interviews. For example, the following excerpt illustrates how having completed my own map allowed me to empathise with participants over shared experiences and challenges in completing this exercise:

- Tenesha:** ⁴So that was another thing I realized that I'd forgotten a lot of those times, especially the more trivial. . .experiences. Or less upsetting ones I should say
- Researcher:** Yeah absolutely, I've done my own map just to. . .go through the process of doing it, and I had a very similar experience where it's like. . .I know I've experienced this so much, but I couldn't tell you when or where or anything like that
- Tenesha:** Yeah, it just kind of skips your mind. . . But you know it's happened everywhere. . .it's just such a pervasive experience of just being in the city or being out on the street, that's an expectation.

Having gone through the process of map-making enhanced the potential for reciprocity and shared understanding with participants, both of which can be considered central to undertaking feminist research. Drawing on participants' comments during interviews and their maps, and my own experiences and reflections on completing the map, I move on now to critically discuss the epistemologies of mapping. What does this method 'do' in the process of making experiences of street harassment known and knowable, and to what extent did it adhere to feminist research principles in practice?

Mapping as generative

A key benefit of the mapping exercise was its potential for generativity, both prior to and during the interviews. Numerous participants commented that the process of completing the map prior to the interview sparked memories of incidents they had long forgotten:

So when I started doing this, I kept. . .remembering things that had happened and so it's kind of just been a dump of everything. . .I started doing it around the time that I contacted you. And then like more experiences have come to mind and I was like. . . it's going to take too much time to put them all on. (Nora)

As a result, participants were able to discuss a broader range of experiences in greater depth than they perhaps otherwise would have. Many participants had clearly spent an extensive amount of time reflecting on their experiences of harassment (some had even consulted friends and family about any incidents of harassment they had previously discussed with them) and came to the interview prepared to talk about their experiences in a detailed and thoughtful way that typically required little prompting from my end. This suggests that the use of mapping can be an effective (and *affective*) tool for generating rich insights by prompting participants' memories. However, as the individual quoted here intimates, this does not mean that participants provided an exhaustive account of every incident of harassment they had ever experienced, and I return to this process of curation momentarily.

For other participants, the process of talking through their maps during the interviews helped them to recall further incidents. This was illustrated in one interview where the participant discussed an encounter with ‘pick up artists’, who use a technique termed ‘negging’⁵ in an attempt to start a sexual encounter with a woman:

I just remembered when you mentioned the negging, but I can't remember where it happened, but. . . I was out with a couple of friends and these guys were like yelling out at us like “oh hey babes or something you’re so hot whatever” and we were like “no sorry we’re not interested” and then they started. . . like “you fucking bitches” (Jen)

For this participant, hearing the term negging during our discussion helped her recall another incident of an attempted ‘pick up’ that quickly escalated into abusive behaviour, although not technically an example of negging itself. Her comments also begin to point towards some of the epistemological limits of mapping, particularly in relation to memory and the silences contained in participants’ maps.

This generativity may also be a reflection of the emotional/affective qualities of mapping, similar to other elicitation techniques such as the use of photographs in interview discussions (Marcella-Hood, 2020). As Gutiérrez (2020: 445) puts it, ‘maps can situate the observer in remote places by generating vivid emotions connected with places’. In so doing, ‘cartography can revive memories’ (2020: 445). Several participants spoke of the affective and emotional experience of completing their maps:

I’d forgotten all about that for a very long time until I sat down, and I did this, and I just got so angry remembering it because I’m angry with myself that I didn’t stand up to him, but what could I do. (Ellie)

When I was initially talking about it and doing the map, getting quite upset, because it is the one experience where I can still see the man’s face and go like what would’ve happened if I wasn’t driving to the station. (Madeline)

While these comments illustrate how the process of mapping might ‘revive memories’ through emotional connection, in the context of research on sexual and gender-based violence this affective potentiality also raises ethical implications. For both of these participants, the process of generating memories was accompanied by negative, if not distressing, emotional and affective states. While a range of strategies were implemented both during the mapping activity and the interviews in order to support participants who experienced distress, the affective intensities of mapping nonetheless raise questions regarding the ethical boundaries of this method (see also Bravington and King, 2019).

Others have identified the benefits of creative and elicitation-based methods in prompting participants’ memory and engagement in the lead up to an interview, and the depth of data generated during an interview (Bagnoli, 2009; Bravington and King, 2019; Levell, 2019; Marcella-Hood, 2020; Notermans and Kommers, 2012). Levell (2019: 2) illustrates how asking male participants to select a series of songs that reflected aspects of their experiences of childhood domestic violence could act as ‘a very powerful way to enable the participant to locate their memories’. As Levell’s research involved participants who could be considered vulnerable, her use of this method also aimed to enhance

participants' 'control and agency to decide the topics discussed' (2019: 3). I argue that digital mapping can similarly work to enhance participants' control over how they share their experiences and facilitate active participation in the research process, as well as serving a generative role lending itself to the co-construction of a rich and nuanced data-set (see also Boschmann and Cubbon, 2014; Datta and Ahmed, 2020; Nordtug, 2020).

While mapping was generative and assisted the co-construction of rich and detailed accounts from participants, this was not the only reason that mapping was used. That is, while this generativity was something of an accidental benefit of digital mapping, in line with Clark (2011: 315) the maps were approached 'as data in their own right', providing insight into the spatial patterns and impacts of street harassment, as well as the ways in which street harassment is implicated in the production and construction of public spaces.

Affording control

The use of mapping in this project was informed by feminist research principles which seek to afford participants control within the research process, and which view knowledge as co-produced. Mapping, Clark (2011: 327) explains, provides 'a participatory method as it is designed to provide the opportunity for participants to step back and to construct a narrative about their own experiences'. In asking participants to undertake the mapping exercise prior to the interview, I was aiming to facilitate a research process that centred participants' experiences and perspectives, as the maps were used as a starting point for discussion in the interviews. During the interviews, it was apparent that the process of mapping both afforded and delimited participants' control over their narratives.

The control that mapping afforded participants was reflected in a range of ways. For instance, participants differed greatly in terms of the levels of detail they provided in their maps. Some participants dropped pins on a substantial number of locations, each of which was accompanied by extensive written notes detailing the incident and its impacts. In other cases, participants simply dropped a pin with a title to evoke their memory of the incident during our interview discussion. By mapping the incidents that they wanted to discuss prior to the interview, this exercise enabled participants to pre-determine the boundaries of our conversation. While some participants mapped a large number of incidents, others used their map to specify one or two key incidents that they wanted to discuss (see Figures 2 & 3). A small number of participants utilised Google mapping tools to include images that evoked a particular experience. One participant who had been harassed while walking her dog, for example, included an image of a French Bulldog, the breed of dog being walked by the harasser. Reflecting on her use of music as a research tool, Levell (2019: 8) observed that 'it functioned as a boundary enforcing tool'. Digital mapping similarly functioned in this way, allowing participants to construct limits around which experiences they discussed. It also enabled participants some control over *how* their experiences were expressed, within the confines of the platform's affordances.

Mapping further enhanced participants' control over the flow of the interview, a benefit noted for other elicitation methods such as participant-constructed diagrams (Bravington and King, 2019). As Levell's (2019: 8) participants used moving on to the next song 'as a way to change the subject', moving on to the next point on the map gave

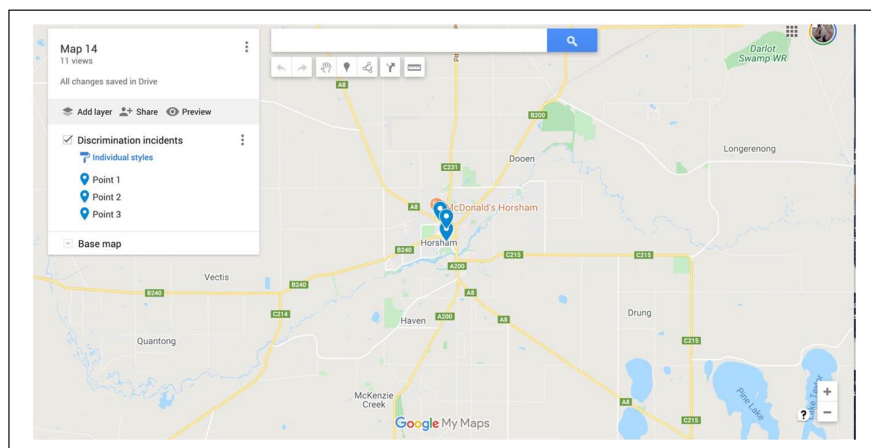


Figure 2. Example of participant map.

participants a bridging point to drive the conversation forward. This was illustrated in the following remarks, where the participant used her map to shift the focus of our discussion, but also to avoid having to talk through similar experiences in exhaustive detail, which could be retraumatising in the context of a project on a sensitive topic:

I think I'm going to leave the rest of the hospital ones because you can read about them, they're all kind of similar. (Donna)

In providing a device to drive the conversation forward, mapping helped some participants to regulate the emotional and affective intensity of the interview, potentially allowing them to minimise the potential for emotional distress.

By asking participants to 'talk me through their map', this created space for them to determine how and in what order they discussed experiences in the interview. Some participants drew on the colour-coding affordances of Google maps to categorise their experiences according to a particular theme or based on the emotional intensity of what happened (see Figure 3). This in turn provided a framework structuring how they talked through their map at interview:

I sort of colour coded it but then I realized I didn't really include like a code. But I used red for experiences where I was by myself and not necessarily single, but like just me by myself, or like with friends. . . I did purple for when I was like coupled with a woman either in a relationship or like if we'd like hooked up on a night out or something. And then I categorized green as exercising, and I basically did those 3 because they were just the main sort of forms and also like common occurrences. (Dee)

If this is all good with you, I might go to – because I put as my third little category being with another woman, and I might go to that first, because I feel like it will flow on properly (Dee)

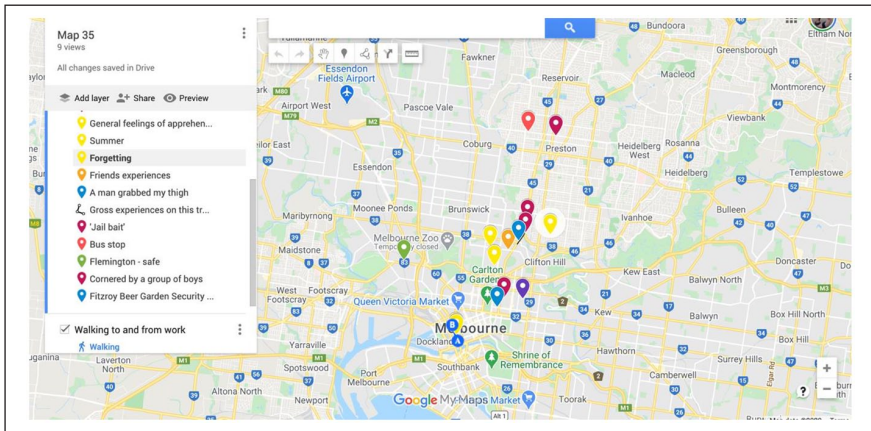


Figure 3. Example of participant map.

While the second quote illustrates how talking through the map afforded Dee control over how and in what order she discussed her experiences, it is also notable that she requests my permission to do so ('if this is all good with you') – something that was not uncommon during the interviews, even after I reassured participants that they should talk through their maps in the order that made sense to them. Participants similarly expressed concern over whether they had completed their map 'correctly':

I don't know if I did the map right – I got a little bit confused I cannot lie (Coraline)

While participants were provided with suggestions regarding what to include on their map, it seemed these were often interpreted as instructions or directions, with many participants anxious as to whether they had done the 'right' thing – an anxiety that was also heightened for those who were unfamiliar with Google maps and less confident in utilising the available mapping tools. While this method was intended to help flatten the power relationship between myself and participants, in practice this was not always achieved.

From an epistemological standpoint, the control that the mapping process afforded participants can be understood using the concept of curation. As I have argued elsewhere in relation to the epistemologies of disclosure (Fileborn, 2018), people who have experienced street harassment make a series of decisions regarding who they tell, and *what* they tell about their experiences. Rather than reflecting some underlying or comprehensive 'truth' about street harassment, disclosure represents a particular *production* of experience, shaped for a particular context and audience – in this case, a research interview (see also Bagnoli, 2009). I argue that the process of digital mapping can similarly be understood as a curated one, and that this curation is *necessary* in order for the method to be participant-centred one. Curation can act as 'an ethical safeguard for participants' by providing them greater control (Marcella-Hood, 2020: 8). For example, one participant commented that she shared a particular experience because:

I guess I wanted to make clear too that. . .it had nothing to do with what I was wearing either because I could be wearing baggy stuff and still get. . .shouted at or beeped or whatever, it's just yeah, it's crap. (Nora)

This participant's map was carefully curated to allow her to make an important political claim contesting the common misconception that women 'ask for' harassment and sexual violence based on their appearance and sartorial choices. In other instances, participants focused on experiences that stood out against the mundane backdrop of routine harassment. This could be because the incident was in some respects strange or out of the ordinary, was particularly harmful, or occurred at a formative moment in participants' lives:

This is the thing that happened most recently and like I remember it well because it was so bizarre. (Aaron)

It wasn't. . .traumatising or anything it just really stood out to me and I think it was probably because it was the time I was. . .discovering feminism (Jen)

The process of curation therefore allowed participants to focus on experiences that were particularly meaningful to them, but also ones that they felt able to narrate or articulate clearly in the interview. Other experiences may have been perceived as entertaining or making for a good story during the interview, illustrated through the emphasis some participants placed on incidents that were perceived as unusual or bizarre. This suggests that particular experiences or types of harassment were more able to be made knowable through the use of maps and discussion, and not all forms of harassment could be made readily intelligible through these modes of expression and representation. I move on now to examine further these silences and the limits of representation in mapping.

Memory, silence and (the limits of) representation

While mapping gave participants control over how they shared their experiences, and elicitation methods more broadly can assist in avoiding silences in participants' accounts (Bagnoli, 2009; Notermans and Kommers, 2012), it was also clear that this method rendered particular experiences of harassment unspeakable or unrepresentable. As with all methods, digital mapping was attended by its own limitations and silences. These silences occurred at the interstices between the affordances of mapping, memory, and the discursive construction of street harassment.

For many people, public harassment is a routine and frequent occurrence. This could make the process of tangibly locating incidents on a map a deeply frustrating one:

When I was starting to make this map and trying to think of incidents over my life, I. . .found it incredibly frustrating because there were like 6 things here and I was like there are insurmountable number of incidents, and. . .they've become the norm so much that only the really traumatic or weird ones stand out. So, I was just so annoyed that it doesn't paint the full picture of a lifetime of navigating yourself and your movements in the public space (Pearl)

The pervasive, repetitive nature of street harassment meant that it could be particularly difficult to remember and map, with experiences and locations becoming blurred and indistinct over time, if not forgotten entirely. Some participants discussed a general recollection of having experienced harassment, with the contours of these experiences now ill-defined and unable to be captured through the tangible and precise nature of digital mapping. Another participant explained how she engaged in a process of selective forgetting:

It just allows you to carry on with it and go outside and. . . be apprehensive but not completely paralysed with fear. So. . . I realized that I'd forgotten a lot of those times, especially the more trivial. . . experiences. Or less upsetting ones I should say. (Tenesha)

Being forgetful served an important protective function, while simultaneously rendering some incidents of street harassment unknowable. These could be understood as protective gaps in the data, as this process of forgetting generated the possibility of continued participation in public life.

Time and memory were a particular source of anxiety for some (potential) participants. I fielded numerous email inquiries from individuals who were interested in participating but were concerned about not being able to remember the precise location of experiences, particularly those that had taken place many years ago. I approached mapping in a similar way to Clark's use of photo mapping with young children, in that I viewed mapping as an 'active process of meaning-making. . . rather than placing importance solely on the product, the map' (2011: 315). While I was interested in examining the relationships between street harassment and space (for example, its role in the production of public spaces), I was not aiming to generate precise or strictly 'accurate topographical representations' of locations of harassment (Clark, 2011: 315). However, the anxiety expressed by participants in relation to memory and space may have been heightened by the affordances of Google maps. For instance, the ability to 'drop a pin' on a precise geographical point may have conveyed to participants that they were expected to recall and document their experiences to this level of specificity, and/or that their experiences would not be of relevance to the project if they no longer remembered this detail. It is likely that some participants simply omitted experiences from the interview discussion if they could not remember them in 'sufficient' detail. Conversely, other participants were able to draw on the affordances of Google maps to represent experiences where the specificities of what happened were long forgotten or merged into an extensive catalogue of experiences (see Figure 4). For instance, several participants highlighted general areas where they had experienced substantial levels of harassment, but were unable to recount the finer details:

So, I put the city and surrounds. . . so. . . most of the harassment I haven't tagged anywhere because I don't really remember exactly where it happened because it just happened all the time. (Opal)

The affordances of Google maps could also make it difficult to represent experiences of harassment that involved movement across space. As Hall and Smith (2014: 303)

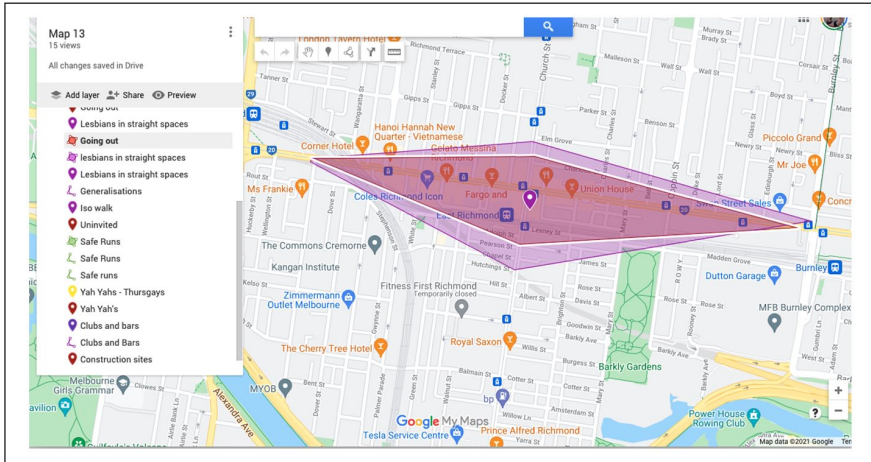


Figure 4. The affordances of Google maps to represent general sites of harassment.

observed in relation to mapping the movement of outreach workers, mapping static points on a map 'is to miss. . .the activity of looking and moving, knowledgably, *through* the city streets'. While some participants were able to utilise the affordances of Google maps to approximate how street harassment shapes their movement through space, or how incidents traverse across an area, overall, the relatively static nature of Google maps meant that the spatial fluidity of street harassment was missed or captured only reductively through this method. For example, some participants inserted lines into their maps to capture more mobile experiences:

He followed me along that line, and it was quite a long walk. . .that's not a short distance that's like a whole block away (Xanthé)

Harassment that occurred over a substantial distance became reduced to several centimetres on a map, understating the enormity of distance that was sometimes traversed in a single instance of harassment. This impossibility of representation was a challenge I faced in producing my own harassment map. For example, an encounter with a man harassing me for over an hour on a train became reduced to a single, static point on a map, in this case at the train station I was travelling to. This mode of representation is unsatisfactory in capturing elements of this experience, 'reducing', as Hall and Smith (2014: 305) put it, 'the act of movement to a plotted line' or a dropped pin as the case may be. Of course, as the study was asking participants to retrospectively document experiences of harassment, it was not possible to attempt to directly map how harassment shaped their navigation of public space, or the qualities and form of their movement (the increased walking speed, the wary look over one's shoulder), in the direct aftermath of harassment (as might be achieved through GPS mapping in real time, for example). My point is not that this is something that Google mapping could or *should* have achieved, but rather to highlight the limits of what we can know about participants' experiences through this method.

Discursive constructions of street harassment similarly contributed towards gaps and silences across the maps. Street harassment constitutes a diffuse category of behaviours, and the discursive and typological slippage within definitions of harassment has been noted elsewhere (Vera-Gray, 2016). Within research and public discourse, understandings of what constitutes street harassment can differ substantially, with approaches variably focusing on actions such as catcalling, staring, unwanted verbal comments, and following someone, while other approaches also include sexual assault and rape as forms of public harassment. Vera-Gray (2016) argues that the term ‘street harassment’ can exclude more ambiguous and subtle experiences that are not necessarily labelled as harassment, but nonetheless constitute a form of intrusion and harm. To complicate matters further, some definitions of street harassment focus exclusively on sexual and gender-based harassment, while others include forms of harassment relating to race, homophobia, transphobia, ableism, and so forth (see Fileborn and O’Neill, 2021). Given this discursive uncertainty and contestation, it is perhaps unsurprising that many participants were unsure as to what experiences were relevant to the study. Typically, participants questioned whether their experiences were ‘serious’ enough to be worth sharing:

A lot of other people probably struggle with it as well, is like what actually is harassment, like I felt silly putting in wolf whistles and stuff, I think when I made this map, I’m like that’s not really harassment, like – but it is. (Fiona)

Despite overtly stating in study materials that the project was interested in capturing diverse experiences of harassment, some participants expressed surprise during the interview that they were welcome to, for example, talk about experiences of racist harassment in addition to sexual/gender-based harassment.

Others were unsure of what constituted a public space:

I don’t know if this is really related to street harassment because I was working, I guess so maybe it was workplace harassment I don’t know? (Opal)

I don’t know if this is street harassment per se, like does it have to be on the street? (Avery)

As a result, there was considerable diversity in terms of which spaces participants felt were relevant to the study, in turn shaping the experiences captured in the interviews. While, for example, some participants had included incidents that had taken place inside quasi-public spaces, such as licensed venues, others interpreted street harassment to refer exclusively to incidents that occurred on the literal street.

The discussion here illustrates how the discursive construction of both street harassment and public space contributed towards gaps and omissions in participants’ discussions. What participants chose to highlight was shaped by what was seen to ‘count’ as harassment or public, but also through the lens of what participants understood as ‘relevant’ to the project. As Gannon and Davies (2007: 72) articulate, ‘an account. . . is always situated. . . written for some purpose and with a particular audience in mind’. Moreover, these absences or silences can themselves ‘be an analytical point in its own right’

(Nordtug, 2020: 4). Thus, rather than viewing omission or silence as a limitation of this method, it can also serve as a form of data in and of itself. In this case, silence points to the role of discourse in shaping how participants understand the concept of street harassment, and to the experiences that remain 'unspeakable'. Likewise, the confusion and diversity in perspectives in terms of what 'counted' as public space provides insights into how participants construct and understand public space.

Concluding remarks

This article aimed to provide critical reflections on the uses of digital mapping in feminist social sciences research. The experiences outlined here demonstrate that digital mapping can be taken up in ways that adhere to feminist research principles. Notably, this method afforded participants considerable control in discussing potentially distressing personal experiences of harassment. Utilising digital mapping alongside interviews enhanced participants' ability to reflect on which experiences they wanted to discuss, and how they wanted to discuss them. However, this control was not absolute. Rather, it was delimited by the affordances of Google maps, as well as the power relationship(s) between researcher and participant. Nonetheless, on the whole digital mapping provided a fruitful method for undertaking feminist-informed research and generated rich and detailed insights into participants' experiences. Collectively, the reflections provided here illustrate how the use of mapping as a method occurs within a complex assemblage of human and non-human elements (see Bittner et al., 2013). In the context of this project, the process of mapping was situated within an assemblage of platform affordances, participants' decisions on what they felt comfortable sharing, memory, discursive constructions of street harassment, participants' comfort and skill in using Google maps, and likely many other factors. These elements come together to shape the data generated through mapping, working to both delimit and open up the possibilities for representation through mapping. Certainly, mapping was attended by numerous limitations, and the affective generativity of mapping warrants closer thought in relation to its ethical implications. Nonetheless, it is my hope that these reflections have illuminated how digital mapping can play a productive role as a qualitative research method.

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Notes

1. Two participants took part in a joint interview.
2. One participant declined to provide their age.
3. <https://www.streetharassmentjustice.com/blog/reflections-on-mapping-street-harassment>
4. All participants are referred to using a pseudonym.
5. 'Negging' refers to a strategy used by 'pick up artists' (PUA) in an attempt to have a casual sexual interaction with a woman. PUAs are typically cis-gender, heterosexual men who rely on a range of dubious and often-coercive seduction tactics to procure sex from cis-gender, heterosexual women. 'Negging' is a psychological tactic whereby the PUA insults or undermines a woman so she in turn tries to seek the approval of the PUA (see Kale, 2019).

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