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Locating Fear:

A pilot study examining the use of a chatbot app to surface embodied experiences of fear in situ.

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Executive Summary

High-profile stories have highlighted the fear many women experience during their daily lives as well as the ongoing fear many students who identify as women, for instance, experience in UK universities during their education. These stories underline the seriousness and prevalence of the situation, the substantial emotional and psychological consequences relating to it, many of which remain invisible.

Many studies exploring fear often exclude embodied data that is gathered by participants in the context of their daily mobilities. This pilot study was designed to address the imbalance by providing a more situated understanding of fear. Using a bespoke chatbot, *City Life*, the research team engaged students in the context of their lives at university, providing them with the means and the opportunity to chart their journeys to and from university, to reflect on their experience at university, moving through the campus and socializing in and out of the university.

Findings indicate that while students felt generally safe within the university, the experience of higher education was not restricted to the physical space of university buildings. Nearly all our research participants frequently travelled a considerable distance to get to university. Especially the necessity to use public transport to attend university meant that participants routinely inhabited enclosed spaces with strangers engaged in anti-social behaviour. It was not always the case that participants could simply sidestep specific settings if these sites were an unavoidable element of their journey. The use of *City Life* enabled the research participants to document such experiences as they occurred in situ. This is important as research suggests individuals are compelled to discuss an emotional experience as soon as it has happened.

Our research ultimately points to implications for how women's educational experience may be influenced by attending a non-campus-based institution. First, the requirement to commute to and from university meant that some women students were less likely to spend additional time at the university. Likewise, these students appeared less likely to attend extra-curricular classes or talks, particularly if these sessions are scheduled later in the afternoon or during winter months. Consequently, if institutions primarily focus on the campus itself, some women students will have a different learning experience to students able to spend more time at university. Second, the time spent in university might correlate with the development of social ties beyond designated learning activities. Given that this community is established in the context of learning, it may result in a distinctive learning environment, as it is less likely that formative peer engagement will continue beyond the physical parameters of the class.

Finally, our research has produced a chatbot app that can be used in future projects. This application might be in the context of a (1) a stand alone piece of work by other universities to measure levels of fear in and around their campus, or (2) as part of a large grant proposal by the research team for a large-scale longitudinal piece of work. In either case, our chatbot app can be used to make policy decisions, as well as feed into wider policy debates, such as UUK's Changing the Culture.

Introduction – The Fear of Crime

The relationship between Crime and the Fear of Crime (FoC) is complicated. An assumption could be made that if rates of crime are high, then, so is the fear of crime, and vice versa. In reality, no easy correlation can be made. While crime rates have been in decline, the fear of crime paradoxically remains high. This is a global pattern. Importantly, COVID-19 facilitated the relationship between FoC and surroundings environments to be explored. In the UK, for instance, national lockdowns dramatically affected the use and feel of public spaces. Rather than witnessing the death of public space, however, the pandemic has engendered a period of ongoing transformation (Potts and Yee, 2019). Grappling with this process is arguably more pressing than ever now that the clear majority of countries have lifted restrictions put in place to limit the spread of the virus. At the same time, the myriad of stories that have recently emerged about the fear many women—such as women students, which is pertinent to this policy report—experience while going about their daily lives, demonstrates the importance of this topic beyond COVID-19.

Significantly, FoC is not the same for all people. Women, for instance, are most affected by the fear of violent crime (FOVC) (see Gordon and Riger, 1991; Stanko, 1995; Warr, 1984), and this fear consistently 'implicates male violence' (Pain, 1993). Pointedly, FOVC can dramatically shape how women approach and move through space (See Bachelor, 2021; Pain, 1997).

1. It can prompt women to avoid certain areas and be conscious of the social activities in which they partake. As Kinsey (1984) points out, these 'subtle' shifts in lifestyle and behaviour (Valentine, 1989) can eventually lead to women living under a 'virtual curfew'.

2. FOVC can have innumerable emotional and psychological consequences that are not always visible. There is a wealth of research that considers links to the night-time economy, drug, alcohol consumption and violent crime and how this intersects with the fear of crime especially for women (Winlow and Hall, 2006; Stanko and Newburn, 1994) but movement around in 'daylight hours' and links to fear are under researched and remain an uncharted territory.

In response to this, scholars have sought to better understand the spatiality of crime. A popular method for comprehending the topography of criminal acts has been to create maps that visualize where offences have taken place as well as where people have been most fearful of violations being committed (Liao, et al., 2020). This process is not as straightforward as it might seem. To begin with, the data must be correct. Though studies have been undertaken that are more sensitive to crimes against women (see Hall, 1985), this information is still not enough to create valid and accurate mappings of crime—particularly as violent crime and sexual crime are frequently underreported (see for example Walby, Towers and Francis, 2014). Similarly, '[the] vast majority of incidents of violence against women take place in the home or other private and semi-private spaces. An accurate map of urban rape would highlight far more bedrooms than alleyways and parks' (Pain, 1997: 233). Finally, crime data rarely considers the relationship between placemaking practices, as well as experiences of place and associated FoC. This is a significant shortcoming that can limit more meaningful comprehensions of FoC.

What is, therefore, required is a more 'situated' understanding of fear that does not solely rely on quantitative information, but equally seeks to understand qualitative experiences of place. As an

upshot to this, emerging mobile technologies have been used to document spatial experiences on the fly as people move through their surroundings. Here, '[mobile] media has further complicated crime communication, as it enables individual exposure to specific crime events and gives people access to localized and location-specific maps' (Liao, et al., 2020: 362)'. Yet, extant research in this field also points to a general gap in the surrounding literature. While it is generally understood that mobile media can document experiences of space and place in situ, in the main, studies of crime data in this context often involves participants reflecting on existing crime data as they move through their surroundings (see Liao, et al., 2016; Liao, et al., 2020). What is missing from this field is the use of mobile media to document and reveal everyday experiences of fear in situ that might not implicate criminal acts, but are significant, nonetheless. Attending to this knowledge gap forms the exigency of this project.

Background - The Higher Education Sector as a Setting

The Higher Education (HE) sector has a growing interest in tackling the fear women students experience in their daily lives, including what works in terms of preventative mechanisms to tackle sexual violence, hate crime and harassment, both in online and offline contexts (Universities UK, 2016; 2019, Office for Students, 2020). On the one hand, the student population is made up of individuals over eighteen—and are, therefore, adults; on the other hand, institutions still have a duty of care to students. As a corrolary to this, universities need policies and structures in place to safeguard students, just as institutions need to understand where this boundary of safeguarding begins and ends, or is a blurred and unclear territory. Equally, to safeguard effectively, universities require detailed information on the nature and scale of fear experienced by students who identify as women in their daily lives, and within mobilities that extend beyond the usual focus om univerity campuses. Gathering and analysing data on student experiences will enable the targeting of interventions where needed and support the establishment of baselines which can be used to measure progress.

This report details a pilot study that produced a chatbot app to help the HE sector understand the ongoing and escalating fear women students attending a city-based university experience in their daily lives in a post pandemic society with 3 core goals:

1. To understand if this research is feasible

2. To understand if this research helps continue the sector wide Changing the Culture Initiative

3. To understand if this research Identifies any gaps with regard to tackling fear for students who identify as women

Aims and Objectives

Aims

This pilot study sits within in the intersectionality of Criminology, Media and Communications, Information Technology, Software Development and Victimology. This research aims to inform the

policy of governing institutional (UUK) and student bodies (City, University of London Students' Union), by innovatively drawing together these academic disciplines. Our common goal is to unpack fear as it pertains to space and place in situ. This is achieved by combining our substantive expertise, and through computational, qualitative and quantitative research methods.

The project seeks to understand:

1. How City, University of London students who identify as women experience fear in their daily lives as they move through their surroundings.

2. The role innovative LF-CA data can play in the context of education, and the provision of constructively aligned support for students who do not feel safe in the environments they commonly frequent.

Objectives

The objectives are as follows.

1. To understand the fear City, University of London students who identify as women experience in their daily lives.

2. To explore how City, University of London students who identify as women describe their experiences of fear and how these experiences relate to physical spaces in situ.

3. To produce a chatbot app that can be used in future research to measure the experience of fear in and around the university setting.

4. To carry out supplementary interviews to discuss the design and findings of the conversational survey application which will feed into a larger research project.

5. To bring together academic research collaboration with sector guidance, in the form of UUK. A future project would need the cooperation of all partners to upscale and become sector wide. The proposed study accordingly tests the feasibility of this

For a full breakdown of the methodology used to gather the data, see Appendix One

Key Findings

1. **A key insight from our pilot study is that for women students, fear may be closely associated with mobility on campus and, more importantly for them, traveling to and from it.** While on campus and in line with extant literature, the time of day (del Carmen, et al., 2000), lighting (War, 1990), and whether students were with company (Austin, Woolever and Babo, 1994), exacerbated particularly the fear felt moving through buildings.

2. **Women students experienced more fear in the wider environment outside of campus, which is explicitly significant for students attending non-campus-based institutions**.

3. **Nearly all our student participants frequently travelled a considerable distance to get to university**. Although the size of London makes longer journeys more likely, **distance is significant when it comes to comprehending the fears associated with the wider environment**. As one of our participants succinctly put it, the most "daunting part of studying in London, is the getting "to and from London".

4. **The necessity to use public transport to attend university also meant that students routinely inhabited enclosed spaces with strangers engaged in anti-social behaviour.** Again, it was not always the case that students could simply sidestep specific settings if these sites were an unavoidable element of their journey. Regardless, the use of the chatbot to surface these experiences is significant.

5. **Students commonly carried very expensive equipment on their person (e.g., laptops, and/or tablets) to facilitate their learning. The act of carrying these devices could exacerbate the fear felt by students when commuting to and from university.**

6. **Using a chatbot app made participants more cognizant of their surroundings and how they experienced these surroundings**. As such, 'safety in knowledge' was described as a benefit accruing from the use of the Chatbot app.

7. Our research also has implications for how women's educational experience might be influenced by attending a non-campus-based institution:

   a) The requirement to commute to and from university meant these students were less likely to spend additional time on campus. Likewise, these students are probably less likely to attend extra-curricular classes or talks (López and Wodtke, 2010), particularly if these sessions are scheduled later in the afternoon or during winter months. Consequently, if institutions primarily focus on the campus itself, these students will have a different learning experience to students able to spend more time on campus.

   b) The time spent in university might correlate with the development of social ties beyond designated learning activities (e.g., around shared political interests, Crossley, 2008). Given that this community is established in the context of learning, it may result in a distinctive learning environment, as it is less likely that formative peer engagement will continue beyond the physical parameters of the class.

Recommendations

Although this is a pilot study and is situated in one city-based University during a specific period of time, the use of a bespoke chatbot app among this targeted population has shown that it has the potential to be upscaled and if the Violence Against Women and Children agenda is to be progressed further, the use of such in situ applications have been shown in this work as invaluable.

City Life enabled research participants to record their interpretation of the spaces they traversed in their daily movements in response to conversational probes, essentially gathering research in real time, which is an area that is missing within the wider FoC discourse.

With the explicit consent of the participants, the application produced trace data such as geo-location and time stamps that the research team could use to plot, compare and analyze for insights into relations between specific physical locations and environmental fear, which is very different to the applications trialled by, for example, the Home Office.

UUK, OfS and other HE sector partners could use the findings from this research to help Universities gain a better understanding of the nature and scope of fear for students who identify as women and

promote what this means in terms of policy development and institutional practice to deliver a safer student experience.

Interested parties such as the Students Union could also use the findings from this research to gain a more detailed understanding of the nature and scope of fear for City, University of London students who identify as women. This information will similarly be used to promote what this means regarding instutitonal practice to deliver a safer student experience.

Significantly, our research has produced a chatbot app that can be used as either: (1) a stand alone piece of work by other universities to measure levels of fear in and around their campus, (2) As part of a large grant proposal by the research team for a large-scale longitudinal piece of work. Our chatbot app can be used to make policy decisions, as well as feed into wider policy debates notably UUK's Changing the Culture.

Though this pilot asks more questons than it answers but it is a positive step forward to measure and understand students lived experiences within the context of the FoC debate.

Methodology

A chatbot was developed using Flow XO, which is an online chatbot software. It was distributed using Telegram, an encrypted messaging service and was called *City Life.*

This design allowed the research team to control various aspects of the chatbot experience, such as the tasks involved (or "flows" as they are referred within the software), when tasks would be broadcast to participants, and the time between first and second reminders to complete tasks. Likewise, we were able to send out individual messages to participants if certain participants had not completed a task following several reminders.

In total, 24 participants used the chatbot for a period of two-weeks. During this time all participants completed 8 tasks that revolved around fear as it pertains to university life at a city-based institution. The age of participants ranged between 18 and 40 years old (mean = 25). *City Life* was developed.

The rationale for using a chatbot to gather data is twofold:

1. The chatbot enabled us to engage participants in a virtual conversation that appeared more human than completing a survey. For participants, then, interactions were more akin to a situated conversation, which is helpful given the kind of experiences we want to understand.
2. The chatbot allowed us to develop a series of tasks that could be completed over a specific period, in this case two weeks. Again, unlike a survey, we wanted participants to be able to reflect on the meaning of specific experiences as they happened.

To begin using *City Life*, participants were sent a link that they could open after they had downloaded and setup an account on the instant-messaging service, Telegram. *City Life* hinged around eight tasks, and several subtasks, which we will briefly outline now (see Figure 1 for an example of the graphic user interface of City Life). The first task was effectively an onboarding task that familiarised participants with using *City Life*. This process allowed participants to share the coordinates of their physical location, alongside images and descriptions of their location, and whether participants felt safe or not. Task 2 focused on "travelling to university". Task 3 focused on

"spending time at university". Task 4 focused on "moving through university". Task 5 focused on "socialising in university". Task 6 focused on "going out for the evening during term time". Task 7 focused on "traveling home from university". Finally, task 8 revolved around "Anything else we missed".

Figure 1. The Graphic User Interface of *City Life*
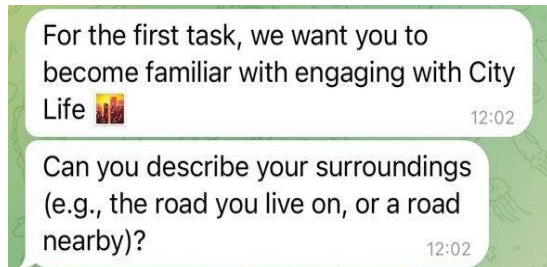
Tasks 2 to 7 were predicated on seven subtasks beyond the initial message explaining what the task involved. More precisely, subtask 1 asked participant to describe their experience of the aspect of university life in question—i.e., traveling to university, spending time in university, or socialising in university. Subtask 2 asked participants whether they felt safe or unsafe in this setting. Subtask 3 provided a space for participants to offer additional information if they wanted to elaborate on their answer. Subtask 4 asked participants to share their location while engaging in this activity—equally participants could also drag a locative pin to the concomitant map if they wanted to. Subtask 5 asked participants to share a photo of this activity, with subtask 6 provided a space for participants to elaborate on this experience or share more images. Finally, subtask 7 asked participants to confirm they were ready to move on to the next task. The next task would, then, be sent in an hour. Unlike other tasks, task 8 only involved 2 subtasks. Here, participants were asked to reflect on areas we might have missed in the proceeding tasks. This concluded by asking participants to share supplementary information and/or pictures that relate to the project, before thanking participants for taking part, and explaining we would be in touch to arrange an interview.

Once a task had been initiated, participants were given 1 hour to complete said task, before they were sent a reminder. A second reminder was then sent later that day. Regarding Tasks 4 and 6, which specifically revolved around mobilities, participants were given more time to complete these tasks. A reminder to complete task 4 came after 2 hours, and after 4 hours for task 6. More time was also given to complete the final task. In all instances, participants were given the option of skipping a specific subtask if they chose to. Responding in this way would then move participants on to the next subtask. Saying "skip" would then move participants on to the next task. When participants complete a particular task, they were given the option of moving on to the next task. If Participants chose to move on to the next task, the following task was sent to them in an hour.

For the majority of participants, reminders were enough to prompt them to complete outstanding tasks and move forward. Nonetheless, we were also able to send individual messages to participants who had not responded to first and second reminders to complete this or that tasks. Decision here were made on an individual basis. All participants were given two weeks to complete the tasks outlined above. While some participants chose to move through these tasks quicker than others, all participants completed all tasks within the specified period.

The data gathered through *City Life* was outputted into individual word documents that were then uploaded into the qualitative data analysis software Nvivo for a period of post-research thematic analysis. The chatbot data associated with each participant was initially read multiple times by the researchers. Following this, meaningful text, images, and media shared were dialectically coded in

the context of indicating something either safe or unsafe. When all data had been analysed in this way, the researchers went through highlighted material to further refine our code. More precisely, coded material was arranged into the following broad themes:

1. The range of fears.
2. Influencing factors.
3. Precautionary behaviours.
4. Engaging with *City Life.*

This refinement was directed by our conceptual framework established in the background section above. We, then, continued to refine our code while interviews commenced. Interviews were conducted with 22 participants via zoom and were recorded, transcribed and analysed.

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