In a New Land: Mobile Phones, Amplified Pressures and Reduced Capabilities

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ABSTRACT

Framed within the theoretical lens of positive and negative security, this paper presents a study of newcomers to Sweden and the roles of mobile phones in the establishment of a new life. Using creative engagement methods through a series of workshops, two researchers engaged 70 adult participants enrolled into further education colleges in Sweden. Group narratives about mobile phone use were captured in creative outputs, researcher observations and notes and were analysed using thematic analysis. Key findings show that the mobile phone offers security for individuals and a safe space for newcomers to establish a new life in a new land as well as capitalising on other spaces of safety, such as maintaining old ties. This usage produces a series of threats and vulnerabilities beyond traditional technological security thinking related to mobile phone use. The paper concludes with recommendations for policies and support strategies for those working with newcomers.

Author Keywords

Mobile Phone; Newcomers; Refugees; Security; Freedoms.

ACM Classification Keywords

H.5.m. Information Interfaces and Presentation (e.g., HCI): Miscellaneous.

INTRODUCTION

This paper presents a qualitative study with newcomers to Sweden and their mobile phone use. We use the term "newcomers" as it is the term used by many of the teachers we engaged with who are working with a mixed community of migrants at different stages of the resettlement process. We conducted this study to better understand how the mobile phone is interwoven into every aspect of a newcomer's life. The study revealed tensions between technological security and personal safety practices for this group of recently arrived refugees, migrants and asylum-seekers. To understand what these tensions might tell us about mobile phone use in this community, and the implications for newcomer resettlement policies and support, we used a broad theoretical interpretation of security. This was driven by the findings that emerged from the narratives provided by study participants which demonstrate both the benefits and the disadvantages of mobile phone use by newcomers. They show how the mobile phone becomes a safe space when traditional institutions of safety break down, whilst also illustrating that these spaces come with certain threats and vulnerabilities that reduce the capacity for deliberative decision-making and reflective judgments on the uses of the mobile phone. This is significant as previous studies [2, 22, 43, 51] and humanitarian reports [52] on refugees and mobile phones have focused almost exclusively on the benefits of increased connectivity for this community, with little recognition of the negative aspects that might be fostered by mobile phone use in this context [18]. There is an implicit assumption in the existing body of work that mobile phones enable and promote different personal freedoms and a sense of individual security. This assumption is coupled with the view that more connectivity and better technology provide clear solutions for refugees and their wider networks [1, 58]. By contrast, our paper examines the tensions in mobile phone use to provide a more nuanced discussion of the role of mobile phones in the newcomer resettlement process.

We use theories of positive and negative security [e.g. 23, 39, 42] to establish a conceptual framework that brings together technological protection from potential harms of mobile phone use (negative security) with the concept of the mobile phone as a facilitator of personal freedoms (positive security). Using this framework to analyse our data, we conclude that the mobile phone is central to the lives of newcomers and, for many, it feels like an extension to their limbs. To this end, mobile phone practices and the agencies such practices generate create a safe space from which newcomers can build a new life, take advantage of the freedoms of being in a new land and, at the same time, maintain kin and friendship connections with the old land. However, such freedoms bring threats and vulnerabilities to these safe spaces that newcomers need to be attentive to and require support for, in order to respond effectively. By conceptualising mobile phones as the enabler of safe spaces, identifying both the threats to and vulnerabilities of those

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spaces and the concomitant threats and vulnerabilities such spaces may introduce, we bring the two sides of the security argument to the attention of the HCI community.

In this paper, we argue for policies that recognise the interactions between both sides of the security coin, and we contend that HCI has a role to play in bringing together the two sides. We highlight that in HCI literature, the protective aspects of technological security are often separated from the individual freedom-enabling aspects of security. This is particularly evident in the HCI literature on refugees. We, therefore, contribute to the field's understanding of security and the roles that HCI researchers can play in developing that understanding.

RELATED WORK

In this section, we interpret related work that describes mobile phone use within newcomer communities by bringing together existing literatures on refugees and mobile phone use. We do so through a theoretical security framework that both considers the technological protections and the individual freedoms that mobile phone use affords. This framework is developed so that we can theoretically ground the findings that emerged from the fieldwork.

Mobile Phone Use in Refugee Communities

Most scholarly literature looks at the refugee component of newcomer communities when considering mobile phone use. Indeed, the relationship between mobile phone and refugees has come under increasing research scrutiny in recent years. At a time when commentators and academics alike are referring to a "refugee crisis" [e.g. 4, 8, 28, 41], the mobile phone is increasingly seen as holding multiple functions – navigator, digital archive of memories, news provider, platform for citizen journalism and activism, communicator that challenges proximity and presence, aid distributor, and site of artistic expression.

Work on security and mobile phones in this context is dominated by discussions relating to privacy and the avoidance of surveillance. A growing number of studies refer to shifts in the current model of surveillance from top-down to co-surveillance [14, 24, 30], enabled through mobile phone use. This has allowed refugees and migrants to become digital witnesses to their own as well as their wider network's everyday experiences and security narratives [24]. To this end, the ability of the mobile phone to empower those who have traditionally been seen to be needing securitisation (e.g. through control and surveillance) has challenged the "hierarchies of visibility" [26]; thus, shifting the power relations between the watch*ed* and the watch*ing*.

The dominant focus centres on the opportunities and mobility afforded refugees and migrants through and by the mobile phone. In this context, the growing body of work on refugees and their mobile phone use tends to focus almost exclusively on different aspects of the initial journey to claim asylum [e.g. 24, 27, 48], with some writings revolving around mobile phone use in refugee camps. For example, Dahya and Dryden-Peterson [12] found that mobile technology was central to expanding the opportunities for Somali refugee women's education in the Dadaab refugee camps of Kenya. Fisher et al. [22] studied how Syrian youths use connected technology to help others in the Za'atari refugee camp in Jordan, whilst Maitland and Xu [37] found that a large majority (86%) of refugees in the same camp owned a mobile phone. Talhouk et al. [50, 51] explored the opportunities for using digital technology to support antenatal care services amongst Syrian refugees in Lebanon.

Whilst this literature on refugees [e.g. 1, 22, 50, 58] tend to highlight the benefits of technologies to refugee communities, the disadvantages have been taken up in the more critical parts of the ICT4D and HCI4D literature which has challenged the benefits of technology to migrants and other marginalised communities [e.g. 57]. In this literature, three key themes emerge that relate to safety and security in the context of mobile phone use: precarity of information, technologies and access in constrained environments [e.g. 15, 27, 36, 47, 55, 57]; differing technological practices [e.g. 25, 40, 46]; and surveillance and privacy [e.g. 57]. However, unlike the focus of this cannon of literature that explores the role of mobile technology either during the refugee journey or in the old home country, the focus of our paper differs from this body of work as it looks at mobile phone use in the new country, at a time of changing precarity and where the pressures of old and new homes collide.

In summary, such studies and approaches have sought to understand and support the freedoms engendered by the availability of connectivity and by the possession of a mobile phone. Whilst they capture the opportunities embedded in digital technology and mobile devices for refugee and migrant communities they do little to progress a more nuanced understanding of the disadvantages that mobile phone use might engender. In this respect, a conceptual frame that brings together protection from the potential harms of mobile phone use and the phone as an enabler of individual freedoms has not been forthcoming.

Mobile Phone Use and Theories of Security

The value of the HCI4D and ICT4D literature in the area of refugee studies can be further enhanced by including a broader interpretation of security that links technological security with the safety and security of the individual: theories of ontological security; and theories of everyday security. Both theories present a broadening of the security frame that can encompass both the positive and negative aspects of security. As the HCI literature at the intersection of refugee and mobile phone studies illustrates [e.g. 1, 12, 22, 43, 50], security in the context of newcomers is driven as much by the functionality of the mobile phone as the integrity of the mobile phone platform. Hence, a broad interpretation of security needs to be developed to build a design framework and to further develop support strategies that embrace both the freedoms that mobile phone use can

enable and the need to protect from the harms that can be introduced by that same use.

Sociologist Bill McSweeney [39] argues for a broader framing of security, one that includes the freedom to live free from fear as well as protection from harms. The notion of living free from fear is linked to the fundamental idea of ontological security, the sense of each being secure in the other [39, 42]. Looking at security from this perspective, the primary referent object, or the element that is the focus of the act of being secure, is the individual. The sense of being secure is founded on basic trust within relationships [23] and is fostered by routines and regular patterns of practice. Croft and Vaughan-Williams [11] citing Croft [10] describe the key elements of ontological security as "a biographical continuity, a cocoon of trust relations, self-integrity and dread […] all of which are constructed intersubjectively."

In recent years, the everyday has become a category of analysis in security studies. This includes "its alternative temporal stress on rhythm and repetition and scalar emphasis on the micro and proximate" [53]. Micro, and the proximate, is reflected in the decisions that an individual makes when deciding with whom to share information and which information to alter or withhold. These are repetitive actions that form a daily routine for many. In HCI such practices are most typically presented as security in the wild literature [e.g. 17, 34, 54], which also sets out security concepts in the context of the broader lived experience and the social and cultural backdrop [16]. This literature is complemented by a body of work from critical social theory that highlights the security concerns of individuals and examines how these concerns differ to the security concerns of the state [e.g. 11]. As this combined body of everyday security scholarship shows us, everyday security narratives often offer a counter-narrative to traditional security narratives. They offer a space in which internal feelings of security are addressed through positive and negative security practices that are interwoven to manage the close and proximate human-computer interactions, such as the ones that emerged in our study.

METHODS

To establish an understanding of mobile phone use in newcomer communities, we developed a study that looked at how newcomers use mobile phones in their daily lives and the opportunities and risks that such usage introduces. The study was undertaken in Sweden because of the Swedish migration policy of permitting migrants to live in Sweden and attend school whilst going through the process of applying for residence [e.g. 3, 7]. This policy enabled us to work in a further education college setting where we could recruit participants who were at different stages of their resettlement journey, ranging from those who were still waiting to be granted asylum, those who were granted temporary right to remain, and those who had been granted residence. This also enabled us to work with participants experiencing both the Swedish asylum-seeking and resettlement processes. However, it also meant that distinguishing between the different newcomer groups was impossible. We adopted the Swedish term "newcomer" as it is used by the teachers who are working with this mixed community. The term is deliberately ambiguous in order not to distinguish between individuals or "type" of newcomer.

The study was undertaken in two schools in Sweden with three groups of 70 newcomers in total, aged 25-55– two groups in Trelleborg and one group in Kvarnby – between April and June 2017. Participants were recruited with the assistance of teaching staff in both schools and did not constitute a homogenic group, but were made up of people with different backgrounds, belief systems, values, and reasons for leaving their old lands. However, it was made clear that any participation would be voluntary. Prior to undertaking the fieldwork, we had also visited both schools and held multiple meetings with the teaching and support staff – one meeting in Trelleborg and three meetings in Kvarnby – so as to (1) receive feedback on research design and approach, (2) make sure that the scope and remit of the study was understood by everyone involved, and (3) to create an engagement schedule that would not disrupt planned school activities. These meetings were accompanied by email dialogue between teachers and the research team. Whilst a wide range of newcomers was recruited, the groups were dominated by Syrian refugees who had been in Sweden between six months and two years

All students belonged to language groups C and D, which meant that they were in the top two groups of Swedish as a foreign language and had previous experience of higher education or language learning. Group demographics, whilst mixed, were thus largely made up of participants from the professional classes in their country of origin. It was decided to conduct the study in the language common to all participants, namely Swedish. This was made possible with the research being conducted by two Swedish-speaking researchers. The research was, however, deliberately designed to be inclusive, regardless of educational background or skills. Similarly, the methods needed to be sufficiently flexible to accommodate a range of language abilities, facilitate the use of translation apps and allow for the use of supplementary techniques such as images and discussions in other languages. As a result, we used collaborative collage as the method for engaging with participants and gathering data. Collaborative collage is one of the engagement tools termed "creative security methods" [19]. It uses collaging techniques to enable small groups to discuss research questions and present their views in a collage produced on paper. Using this technique, space is created that allows participants to negotiate the language used within the small group, facilitates the use of images to supplement the written descriptions, and allows for the use of scribes to write down views. By allowing participants to work in this collaborative manner, a dynamic research environment was created where the participants became the prime narrators. This allowed their individual as well as their shared stories to emerge organically.

	RGrp1	RGrp2	RGrp3
Location	Trelleborg, Sweden	Trelleborg, Sweden	Kvarnby, Sweden
Participant Description	25, mixed men and women aged 25-55	15, mixed men and women aged 25-55	30, mixed men and women aged 25-55
Languages Used	Swedish (Arabic)	Swedish, English (Arabic)	Swedish, English (Arabic)
Language Ability	Language group D	Language group C	Language groups C/D
Duration	2 x 90 minutes over 2 days	2 x 90 minutes over 2 days	2 x 60 minutes in 1 day
Outputs	Wall collage. Small group drawings. Group summaries.	Wall collage. Group summaries	Wall collage. Small group drawings. Group summaries

Table 1. No personal information about the research participants was captured. Wall collages and group drawings were left at each research site and only pictures of these materials and summaries were retained by the researchers.

Table 1 presents a summary of the geographical location for each group activity, the group size and composition, language ability and languages used, activity duration, and outputs. Whilst the language used for the outputs was Swedish and English, Arabic was used by some groups as the language in which to conduct the discussion, and translation apps and group work were used to translate the results of the discussion to contribute to the outputs. As part of the consultation with teaching staff as well as preparatory work with newcomer groups, we developed four research provocations, outlined in Table 2. These provocations were deliberately designed to work at an instrumental level so that participants could answer in a manner that described their mobile phone use without reflecting on the meanings of that use. The provocations were supplemented by prompts, also listed in Table 2, which gave participants an opportunity to provide further reflective answers that addressed abstract as well as practical aspects of their mobile phone use.

Prior to the first session with each group, a space for a wall collage was created by attaching a large piece of paper to a wall (Figure 1) and the four provocations were written in Swedish onto the paper. The sessions were structured as follows: at the beginning of the first session the research objectives were explained, the methods were presented and participants were divided into smaller groups of up to four participants to commence building the wall collage by responding to the provocations.

Provocations	Prompts
With my phone I can…	*What did you do with your phone last night?*
Without my phone I could not…	*Where do you use your phone most / least?*
My phone is most useful when…	*Which apps are most helpful?*
The connections I can make with my phone are…	*How does your phone help you sort your life?*

Table 2. The research provocations were written in Swedish on the four sides of the collage. The prompts were printed and handed out during the sessions.

The four prompts, listed in Table 2, were then introduced during each session. They were printed in both Swedish and English and were used to broaden the discussion once participants had responded to the initial research provocations. At the same time, a selection of pictures covering topics such as travel, mobile phone use, apps, and networks were made available to participants. These images contributed to the stimulus material but also provided a means to raise complex issues without having to structure complete and complex sentences in a secondary language. This method was therefore deliberately designed to overcome any potential language barriers. A second activity was introduced in the second session with RGrp1 and RGrp3, as these groups had completed activity one and needed another stimulus to broaden the narratives. Working in small groups, participants were asked to create a drawing that showed their relationship with their mobile phone. These drawings resulted in a variety of different narratives that added further layers to the collage.

An important element of each session was the group reflection. In the last thirty minutes of each wall collage building activity, each group discussed the content of the collage and arrived at key conclusions. Due to the sensitivities of the group and the importance of anonymity, the participants declined to be audio-recorded. Instead there was a nominated scribe, typically one of the teachers, who captured the reflections of the group and wrote them on the white board or typed them and projected the typed document onto a white board. The participants reflected and commented on the feedback so that at the end of each session a consensus on key findings and interpretations had been reached.

Data Capture and Analysis

Three forms of data were therefore captured during this process: (1) written and image content on the wall collage; (2) researcher observations captured in note form; and (3) conclusions and feedback from the summary discussion at the end of each group engagement. The analysis used Gillian Rose's analytical approach to analysing visual data [44]. In particular, we employed visual content analysis, which allowed us to develop qualitative interpretations of both the wall collages and participant drawings [35]. Image records were kept of all the generated data and by systematically

categorising and interpreting the visual data in relation to the newcomer context, specific categories related to mobile phone use and individual security emerged directly from the data. This was done through an approach where we, individually and manually, traced dominant narratives across all three collages, group drawings, and feedback discussions. To ensure consistency, the narratives were aggregated, themes were developed based on the different analytical components, and relationships between the individual themes were explored. The inductive approach that drove the research resulted in the theoretical frame of positive and negative security emerging directly from the captured data.

Figure 1. A wall collage, created by RGrp1, attached to a classroom wall in Trelleborg. The collage shows the multi-layered narratives that emerged from the research provocations and the prompts.

FINDINGS

Through the analysis, particular themes and sub-themes were found in these narratives that centred on the centrality of the mobile phone in everyday life and the pressure of always being connected.

Centrality of the Mobile Phone in Everyday Life

All three collages and participant drawings strongly present the theme that the mobile phone is central to everyday life for all participants. In RGrp1, this connectivity is described as being *"connected to the world"*. Participants' responses to the four provocations show that the mobile phone is constantly present in all aspects of their lives, to the extent that many participants reported that the mobile phone is the first thing they look at in the morning. When asked "which apps are most helpful in your life?", participants noted that social media apps, e-payment apps, location finding apps, translation apps and apps for supporting the completion of school work are most popular. This was evident in all three groups and illustrates that mobile technology use by newcomers has a range of common features. For example, in all groups the ability to translate using the phone was as important as maintaining contact with friends and family. One response in RGrp1 also reflects the centrality of the mobile phone as a navigator. In response to the provocation *"without my phone I could not…",* the participant notes: *"come to Sweden".* This message, re-enforced in Figure 2, shows that the mobile phone is used in all aspects of everyday life; from telling the time, to scheduling, to location finding, to building and maintaining relationships. Harms, which relate to the pressures of always being connected, were felt by most participants.

The narratives captured in the researcher notes and in group discussions also re-enforce this point, as this quote illustrates: *"Okay, so maybe sometimes the phone is not good…but right now, for me, the phone is my right hand".* This quote shows that the safety that the mobile phone affords outweighs the potential harms from using the mobile phone. The quote and subsequent narrative given by a newcomer to Sweden, who had left her husband and ageing parents in Syria, reflects the hyper-intimate relationship that she experiences with her mobile phone. For this participant, now in Malmö, her mobile phone has not only become a tool through which she connects with what and who she left behind, but it has enabled her to maintain her own and her family's existence at a time of displacement and disruption. She gave an example of being sat on a bus in Malmö when her husband suddenly rang her from the Syrian-Lebanese border en route to the visa application centre for Sweden in Beirut. He urgently needed a copy of her "right to remain" in Sweden document before he would be allowed to enter Lebanon on a 24-hour visa. She quickly took a picture of the document before sending him the document; all within the space of two minutes and all done with her mobile phone. This explanation highlights the centrality of the phone and also how important the phone is to affording a sense of safety and security in family relations.

Figure 2. An illustration showing the centrality of the mobile phone to all aspects of everyday life. This exemplifies a range of positive features of the mobile phone. RGrp3.

Central to Communication

As is evident from Figure 2, and also a dominant feature in all collages and classroom observations, participants relied on the mobile phone for language translation in all aspects of their lives in Sweden. This functionality means that the mobile phone is present in most of the participants' everyday activities. All collages revealed a real sense of not being able to exist in Sweden without this translation function. As noted by one participant contributing to the collage in RGrp1: *"The*

mobile phone is most useful when I'm learning Swedish." The problem arises when the phone *"dies"* – runs out of battery or breaks down. For most participants, the risk of the phone not working was described as a real threat to their ability to communicate and to exist in Sweden.

Central to Experiencing Life and the Lives of Others

The centrality of the mobile phone in everyday life – to be able to connect and communicate – was also expressed in terms of not being able to "*live"* without a mobile phone and that only when they are asleep does the phone become less important. One participant in RGrp2 exemplified this by describing how her mother, through WhatsApp, would share a morning coffee every day with all her siblings living in five different countries. In this context, the centrality is re-enforced by the use of the mobile phone to connect kin and friendship networks across a wide range of geographies. Experiencing life, and experiencing the lives of others was described as being an essential function of the mobile phone. The function had become even more significant since they had arrived in Sweden. As one RGrp1 participant noted: *"I'm waiting for my family in Syria to contact me after a big explosion yesterday…I feel what they feel."* He felt strongly connected to the people he had left behind in his old country, and the mobile phone allowed him to experience what they experienced, albeit at a distance. Another drawing in RGrp1 depicted the mobile phone as a keyhole through which old ties and the lives of those left behind could be experienced.

In all three groups the view was expressed that whilst the mobile phone is central to experiencing life, direct contact is also lost in this relationship building. A response on the collage from RGrp2 states: "*Disadvantages with mobile phones are: pain to the neck and people are taken away from direct communication which can lead to autism."* This quote shows that a loss of direct communication is understood to be impactful, at both a physical and a mental level. There was much discussion across all groups in the feedback sessions, and particularly in RGrp1 and RGrp2, about the impact of mobile phone use on the body. Whilst this quote exemplifies that the extensive use of mobile phones has a corporeal impact, other participants also illustrated how a reliance on the mobile phone challenged the power-relations between the person and the technology. A participant drawing and accompanying text created in RGrp1 shows how the mobile phone is now controlling the individual. Referring to the mobile phone and with the caption, *"I am leader",* the drawing shows how the individual is rendered powerless in resisting the connections facilitated through the mobile phone and the pressures related to such connections.

Central to the Presentation of Daily Life

Whilst the mobile phone enables newcomers to share their everyday (through images and sound, for example) with family and friends across the globe, the participants were keen to highlight that mobile phone use also engendered concerns over what to share and what not to share. All three collages document how this concern about sharing had led some participants to edit and self-censor the ways in which they present their everyday activities on digital networks. Contributing to one of the collages in RGrp1, one participant explained how he did not want his family, who were still in Syria, to see him having a good time in Sweden. This meant that he would invest a lot of time and energy in trying to control his social media presence. However, this was not always straightforward given the ways in which he felt tracked and monitored by his mobile phone (e.g. through the geo-tagging of photographs or location tracking). Another participant in RGrp2 also emphasised how the ability to "follow" friends and family on social media could reinforce the feeling of being displaced, isolated and distant.

Pressure of Always Being Connected

One of the central themes to emerge from the analysis was the pressure of always being connected. Figure 3 shows how the mobile phone becomes a lifeline, in a literal sense, with Figure 4 exemplifying the hyper-intimate relationship between the individual and the mobile phone that can, at times, be seen to be all-encompassing. In both images, the word *"help"* is connected to the mobile phone. However, in Figure 3 *"help"* relates to helping others, whilst it refers to helping oneself (*"help me"*) in Figure 4.

Figure 3. This drawing shows the mobile phone as a lifesaver and the responsibility to help felt by participants – facilitated by the mobile phone. RGrp 1.

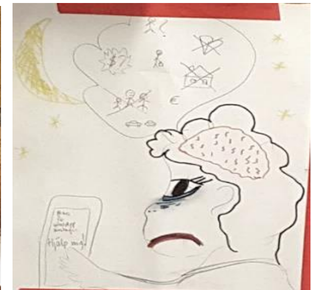

Figure 4. This reflects the embedded and intimate nature between the mobile phone and the individual. RGrp 1.

The phone and its capacity to help thus holds different meanings in different contexts. This often means helping at distance, via the mobile phone, family members with bureaucratic tasks. Many participants felt that they had a responsibility to be connected, and that there was an expectation from their wider network that they would always be contactable. This was linked to the feeling of being *"lucky to get away".* This was expressed by one participant in RGrp1: *"I escaped, and now I need to help my family."* As illustrated in Figure 3, this help was often described as being facilitated by the mobile phone. This meant that some participants would never leave the house without their mobile phone charger. As noted by one participant in RGrp3: *"My biggest concern is that I run out of battery, so I never leave the house without my charger as well as my mobile".*

Out of Sync

The pressure of always being connected felt by some participants was amplified by the sense of being 'out of

sync'. This was expressed in a number of ways; some participants noted that their relations with friends and family had been made asynchronous because they were in different time zones whilst others related this to their lived experiences. As the collage created by RGrp2 illustrates, this also relates to the pressures and stresses connected with loss of connectivity in their old land, which meant that they were not able to contact friends and family left behind. This left them in a waiting position, waiting for contact and connectivity, with a feeling of being suspended in time and space. In some cases, this was also described as limiting their sense of personal security in their immediate environment, which added to the disadvantages of being constantly connected. When such connections broke down, they were seen to reinforce the sense of displacement and isolation. Linked to this, immediate connectivity made some participants feel present in two places, which meant that the insecurities experienced by the wider kin and friendship network was felt in Sweden. This was particularly stressful for those who had been separated from their children. As one woman in RGrp3 noted: *"Without my mobile phone I can't speak to my family or my children"*. However, others noted that the ability to speak to children left in Syria, for example, could *"impact negatively on the children."*

To this end, participants highlighted different pressure points which were not always understood by the wider kin and friendship networks. The researcher notes from RGrp2 show that the pressure of always being connected might also create challenges for parenting both in terms of parenting children's mobile phone use and in terms of having reduced capacity to manage local family challenges whilst managing family challenges at distance. These notes go onto show that for many participants, the process of parenting is further complicated by no longer being able to use approaches that are culturally acceptable in the countries of origin. Additionally, some reported that, in their experience, children and parents integrate into Swedish society at different rates, placing further pressure on parents to adjust their parenting techniques to those of the new country.

Whilst not directly represented on the collages, the researcher notes also record conversations in two out of the three groups that highlighted shifts in parent-children dynamics and the challenges this poses for parents guiding children in safer use of mobile phones. These shifts took several forms, but generally centred on how parents felt alienated from their children. For some, this was manifested in the inability to speak Swedish: *"My children are laughing at me because I don't speak Swedish, which they do"* (RGrp3). Another participant in RGrp1 expressed concerns that she was not a good role model for her children, because *"I don't know how to teach them about using the mobile phone"*. In the group discussion that took place in RGrp1, this shift in parent-child dynamics was understood to be a clear disadvantage of being reliant on the mobile phone. Participants noted that "the mobile takes over", which would create a gap between them and their children.

Who or What is in Control?

The notion of control and power emerged in all three collages, participant drawings, and group discussions. In some cases, the mobile phone was described as controlling the human and as a literal extension to limbs: *"…right now, for me, the phone is my right hand"* (RGrp3). This was not seen as being without friction. Challenges stemming from this intimate relationship between the human and the technology was expressed in different ways by participants. The group discussion in RGrp1 revealed that participants felt that there was *"no alternative"* to being intimately connected with the mobile phone. They explained how they had *become "part of the technology"* itself, and separating themselves from this technology *"was not possible"*. However, as the above quote also shows, there is a sense that the dependency on the mobile phone is only temporary and specific to the participants' current situation. This indicates that the high levels of dependency on mobile phone use as the main means of navigating and experiencing everyday life is regarded as an aspect of their current circumstances and not necessarily the way that life will always be experienced.

The question of who or what was in control was a dominant theme across all the groups. Summary discussions highlighted participants' concerns over becoming slaves to the technology. This concern was also illustrated in a number of the drawings produced in RGrp1 and RGrp3 as exemplified in Figures 5 and 6. Both drawings highlight the blurring of the human and the technology in different ways. Figure 5 was accompanied by a group discussion which showed the lack of control that most participants felt in relation to their mobile phone use. The person in the drawing is suspended in mid-air, the technology has replaced his head and his feet show that he is not in balance.

Figure 5. This depicts the mobile phone as the head of the human, whilst this human is suspended in mid-air, problematising the question of who/ what is in control. RGrp1.

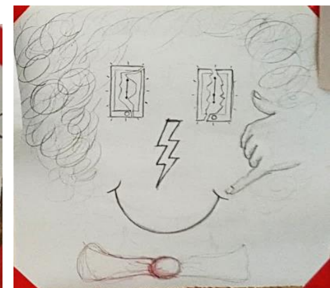

Figure 6. The technology itself is depicted as having human qualities and features. The mobile phone has become the face of the human. RGrp 1.

Loss of Intimacy

The data shows that the loss is felt at a number of different levels; physical, linguistic and emotional. In all three collages, the narrative of loss of physical interaction and loss of the ability to share emotions were repeated themes: *"We meet each other, but we only think about our mobile phones"* (RGrp2). Some participants noted that the use of the mobile

phone to connect with friends and family had reduced the level of physical contact – such as hugs and kisses, as evidenced in the collage produced by RGrp1 – and some articulated a sense of loss of experiencing touch. In RGrp3, this discussion was extended by a small group of participants. This group created a specific collage (Figure 7) on this topic and returned to the session after a short break to ensure that their narrative of enhanced communication, on the one hand, but loss of the ability to communicate emotions, on the other, was understood by the researchers.

Freedoms and Harms

There is a strong narrative across all three groups, but particularly in RGrp1 and RGrp2, that the mobile phone offers freedoms but also introduces threats and vulnerabilities that need to be protected against. In RGrp2, one response produced by three participants presented the view that the mobile phone itself does not present a threat but it was how people use it that determined whether the mobile phone constituted a safe space from which life could be explored or whether it introduced threats to an individual's security. Moreover, the summary discussion notes from RGrp2 reflects participant agreement that people have choice as to how to use the mobile phone. However, they also exemplify that whilst there is choice, the precariousness of the newcomer's situation often meant that the mobile phone becomes an extension of self, and protecting yourself from the potential harms is often difficult.

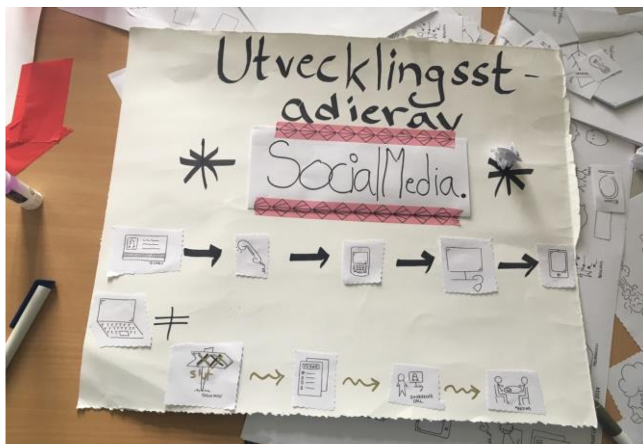

Figure 7. As the Swedish caption emphasises, this small collage depicts the evolution of communication technology and the associated loss of human contact. RGrp3.

This was evident in group discussions where participants noted that their *"current situation"* meant that their dependency on the mobile phone could lead to *"isolation"* from their immediate environment. Their ability to stay secure was also seen to be hindered by a lack of e-safety education and guidelines: *"Swedish society forces us to use mobile phones and the internet…but have they helped us digitally engage with the different services*?" This question was raised by participants in RGrp1 as they felt they had no other option than to use digital technologies to access services in Sweden. There was a recognition that this could make them particularly vulnerable to external attacks. However, a more dominant narrative related to the vulnerability of children. Most participants noted that because of their own lack of knowledge and limited understanding of e-safety practices, they felt restricted in their ability protect their children in a mobile and digital context – especially at a time when they were themselves learning to live in a new land.

Whilst the mobile phone represents a particular kind of freedom for newcomers in relation to their ability to connect with old and new ties, it was also seen to restrict emotional freedoms. Some participants explained that whilst geographical distances between individuals are seen to be shrinking through digital connectivities, the emotional boundaries between people are becoming more profound. The mobile phone and what it represents, therefore, embodies different qualities of freedom that need to be understood when evaluating the findings of this study.

DISCUSSION

In each group, the findings demonstrate that the mobile phone helps newcomers to experience and develop a safe space. This safe space enables them to experience freedoms to develop a life in a new land whilst still engaging with and being part of kin and friendship networks in their old land. These experiences shape and amplify the centrality that newcomers feel that the mobile phone has in their everyday lives. The mobile phone creates a space in which freedoms can be more easily established and connections can be more easily maintained. Moreover, such freedoms are accompanied by threats related to how mobile phones are chosen to be used and the impossibility of newcomers to deliberately think about mobile phone usage, when the device is so intimately interwoven into every aspect of the newcomer's life. Viewing the findings through both a negative and a positive security lens allows us to explore security in relation to policies and education programmes for persons arriving in a new land, with specific policy considerations regarding: (1) resettlement; (2) security in a new land; and (3) designing e-safety for newcomer communities. These policy areas address wider refugee resettlement questions and our contributions place HCI at the centre of the wider refugee resettlement debate.

Framing Mobile Phone Security in a Wider Context

The everyday experiences presented by each group speak to the ontological security of this community as well as the need to protect the mobile phone and its availability. Thus, it empirically exemplifies the two genres of security theory that enable a more profound understanding of the security relationship between the individual and their mobile phone. It also enables HCI to speak to a wider set of policy issues concerning newcomers that go beyond the purely technical and address issues of societal integration and individual well-being. Responses presented in the collages and participant drawings reflected that the use of mobile phones can be both supportive and harmful depending on how it is used.

However, the point was also made that objective decisions made after a period of reflection about mobile phone usage is impossible when the device is so intimately interwoven into every aspect of an individual's life. The intimate relationship depicted in the wall collages (exemplified in Figures 4, 5 and 6) is both a physical and an emotional intimacy that serves to amplify all experiences of mobile phone use. It is this intimacy that makes mobile phone security wider than the technical design to include issues of individual wellbeing and safety fundamental to safe asylum-seeking and successful resettlement in a new land.

The focus of digital security design is the protection of technology and the data created, stored and transmitted by the technology. Examples of digital security topics include: managing the security of mobile phone software [e.g. 20, 31]; the usability of mobile phones [e.g. 6]; and management of access to mobile phones [e.g. 9]. The focus of much of the technical security design is to distinguish between authorised and unauthorised access. However, technological approaches are less helpful in close, proximal everyday digital activities where the distinction between authorised and unauthorised is not clear-cut. As our findings show, for the participants at the centre of our study, the point at which the person stops and the mobile phone starts is indistinct. When the boundary between technology and the individual has dissolved traditional approaches to digital security, those based on the protection of assets, become difficult to operationalise and too narrow in their scope.

Whilst the asset-based approach is significant in terms of designing technological components, our study indicates that technological security design needs to be complemented with strategies for managing the connections between technological security and individual security so that technological security strategies can move towards a transformative assets-based approach as has been established in community development studies [e.g. 38]. Human interactions with the mobile phone therefore need to be understood not only in terms of technological design but also as part of refugee resettlement policies and refugee safety policies. Below we detail our recommendations based on our research findings in each of these areas.

Implications for Refugee Resettlement Policies

The findings from this study show that the freedoms that the mobile phone affords are vital for newcomers, yet, they also exemplify significant challenges that the mobile phone introduces to this community. To this end, our findings foreground a series of considerations that might be taken into account when designing policies and education programmes for persons arriving in a new land. We outline these considerations in the following sub-sections.

Supporting New Citizens

Teachers and third sector agency workers supporting newcomers to develop a life in a new land need to be attentive to the need for an individual to balance positive and negative security. Previous HCI work on mobile phones and refugees has given a focus to the benefits of designing better technology and ensure greater connectivity for this group of individuals and how such initiatives might improve the lives of this perceivably vulnerable group [e.g. 1, 12, 22, 43]. Whilst such discussions are critical, our findings crystallise that there is also the need to broaden this security frame to include sociological understandings of ontological security and theories of everyday security to reflect both positive and negative security, and in practical terms, how individuals can balance both types of security.

The findings from our study therefore raise the question of what kind of security agenda is needed to better cater to the needs of a diverse group of individuals whose threat horizon, as exemplified in all three wall collages, is both heightened and amplified through this piece of mobile technology. At the same time, the sensitive and hyper-intimate relationship that newcomers experience with their mobile phones creates a feeling of self-security where the individual is able to secure themselves. Throughout the study, this sense of self-security was demonstrated by the newcomers by their integration of the mobile phone in every aspect of everyday life and the pressures they felt to be constantly connected. However, during periods of no, or limited connectivity and loss of contact with wider kin and friendship networks, this self-security was described as being challenged and as becoming increasingly unstable. Teachers and third sector agency workers who are supporting newcomers as they establish a new life in a new land need to be attentive to this fragility, and the HCI community should extend service and technology design to enhance feelings of self-security.

Security in a New Land

Our findings cause us to question when newcomers stop being newcomers and become established citizens. Our findings indicate that the journey from newcomer to established citizen is long and, in some cases, never-ending. As a result, newcomers must manage connections with their old land for an indefinite period and this can bring stresses to which teachers and third sector agency staff need to be attentive. In addition to recognising the dual security aspects of the relationship between newcomers and mobile phones, our findings also illustrate how the reliance on the mobile phone and its connections does not stop once refugees and migrants reach their new land. The participants in our study showed, through the collage narratives, how the mobile phone becomes an extension both of themselves and of their old land and its people. This allows them to be "present" in two places at once. Indeed, theories of migration have long referred to the notion of "double absence" of migrants and refugees [e.g. 45] that describes how they become absent from their old country of origin as well as absent from their new host country. However, our findings show that in order to understand the freedoms that newcomers experience through the mobile phone, the notion of "double presence" [5, 13] might be more appropriate. As Sheller [48] suggests, "[w]ith smartphone use [refugees] are able to reassemble their social ties from a distance." This resonates with our

findings which illustrate how newcomers are able to stay in touch with their kin and friendship networks as part of their mobile, yet, unstable and uncertain lives and futures. These findings therefore demonstrate the extent to which the freedoms afforded through the mobile phone are not clear-cut and come with a pressure to share information and be present in multiple spaces.

Given this tension, in a security design context, recognising how the mobile phone amplifies feelings of suspense, loss and separation is as important as understanding the role of the mobile phone in connecting old and new lands. Understanding how connectedness and feelings of separation interact, in turn explains how a newcomer's threat landscape is shaped and the practices they perform to protect the mobile phone and its contents. For some participants in our study, the journey, with its myriad of challenges and opportunities, becomes yet more intense and more demanding to the extent that the mobile phone becomes not only a facilitator of freedoms but also a constant reminder of what once was; thus, potentially restricting an individual's sense of security, freedom and ability to engage with a new land.

Designing E-Safety for Newcomer Communities

E-safety is a subset of wider refugee security policies. The design and implementation of effective e-safety strategies and approaches need to account for the blurring of the individual and the technology, where the separation between the individual and the technology is not explicit or even existent. The following outlines four ways in which e-safety policy and guidance may be developed.

First, the focus on the centrality of the mobile phone for newcomers reduces the capacity for deliberative decision-making, reflective judgments and critical reflection on the uses of the mobile phone; all of which are needed when making decisions about access control, software updating and the taking of back-ups. Given the dependency on mobile phone use and the emotional pressures that newcomers are facing, a policy of developing a support network to help provide social resilience and support in a new land may also help to absorb some of the unwanted side-effects of intense mobile phone use.

Second, techniques for finding a balance between positive and negative security is an important aspect of e-safety guidance for this community. From the perspectives of the newcomers, expressed through the three wall collages, the freedoms that the mobile phone engenders are dynamic and require a continuous repositioning and re-balancing of prevalent security frameworks and agendas. To this end, the findings from our study exemplify how the relationship between notions of positive security (freedom to live free from fear) and negative security (protection from harms) become blurred, and even muddled, at different points in an individual's life. Most importantly support is needed to help mobile phone users to identify particular types of mobile phone practices that could harm the formation of new freedoms, including the pressure of being constantly connected to support wider kin and friendship networks.

Third, e-safety guidance and public policy needs a wider vocabulary to articulate connectedness and new ways to evaluate the connectedness that newcomers have and feel. By developing a vocabulary capable of articulating the nuances of connectedness, the trade-offs between different types of connectedness can be discussed. For example, intimacy through digital connectivity also potentially results in trust in the device that is misplaced and which might blunt the decision-making processes necessary to manage mobile phone security. Further evaluations of vocabularies to articulate different types of digital connectedness might help to develop a newcomer's understanding of their emotional landscape and how they can best manage such a landscape.

Fourth, e-safety policy and guidance should reflect the interwoven nature of security concerns experienced on a day to day basis by newcomers. Guidance needs to support newcomers in developing their own multi-layered strategies that enable individuals to develop a strong sense of effective self-security across a broad range of issues and maintain their individual wellbeing.

CONCLUSION

In reducing some of the challenges to social isolation and claiming some control over how and where integration into society takes place, mobile phone use contributes to and shapes a newcomer's sense of freedom. These freedoms are, however, fragile as the participant narratives in this study express. The everyday pressures for newcomers amplify some of the disadvantages of constant and intense mobile phone use and potentially renders expected methods of managing mobile phone use weaker. Mobile phone usage techniques that serve to strengthen these freedoms should be encouraged through guidance and also be complemented by specific techniques that, whilst attentive to the need for developing new freedoms, minimise potential harms of a close, constant and intimate relationship with the device.

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