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Technology-facilitated abuse within the context of intimate partner violence: Barriers to and recommendations for safety planning

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Abstract: Technology-facilitated abuse (TFA), a consequence of structured gendered disadvantage, poses increasing harm to women survivors of intimate partner violence (IPV) and their children. This paper presents a small explorative transdisciplinary (social work and geography) study which aims to assess the knowledge of women professionals from four European countries (Estonia, Finland, Greece, and Northern Ireland) working in the area of IPV about TFA in general and in particular safety planning. The focus on safety planning is what distinguishes this research. The research findings indicate that the risk assessment of TFA is not always included in safety planning. Barriers, such as lack of professional knowledge, are reported. The paper ends with feminist insights about the risks of engaging in a reductionist approach when the focus becomes just the lack of knowledge *per se*, without accounting for the wider structural inequalities that exist within the context of patriarchal surveillance capitalism and which are primarily responsible for TFA.

Key Words*: intimate partner violence/gender-based violence, coercive control, safety planning, gender digital divide, structural inequalities, powerlessness, victim blaming*.

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Introduction

The exploitation of technologies by perpetrators of intimate partner violence (IPV) or domestic abuse (DA) pose increasing harm and risk to women survivors of abuse and their children. The use of technologies to harass, monitor and harm women is referred to as technology-facilitated abuse (TFA) and presents implications for safety planning. Safety planning is one of the main components used in the delivery of effective domestic abuse services, which can reduce the risk of abuse and potential abuse and increase safety either within a relationship or post separation. However, there is a lack of research on assessing

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the knowledge of professionals in the field of domestic violence about technological abuse and related safety planning, a gap which this paper addresses. The focus on safety planning is what distinguishes this research from other research studies.

This small qualitative, explorative study aims to assess the knowledge of professionals from four European countries, Estonia, Finland, Greece, and Northern Ireland, working in the area of domestic violence and TFA in general and safety planning in particular.

The study of TFA is inherently transdisciplinary, encompassing a range of fields of study (Bailey & Liliefeldt, 2021). This paper utilises a transdisciplinary perspective, drawing on the authors' backgrounds in social work and human geography, their respective research interests in the areas of IPV and location-based technologies (e.g. Pentaraki, 2009, 2013a, 2017, 2019a; Speake, 2015; Pentaraki & Speake, 2020; Klencakova et al., 2023; Maguire & Pentaraki, 2023) and extensive experience of working in transdisciplinary settings (Pentaraki & Speake, 2022). The paper is positioned within the critical tradition of social sciences and its emphasis on uncovering oppression and systemic injustice and furthering the potential of social change (Pentaraki, 2013b, 2019b, 2023; Pentaraki & Speake, 2015). Key findings are discussed through important concepts of both disciplines, such as power/powerlessness, empowerment and space/spacelessness, and empowerment within the setting of patriarchal surveillance capitalism.

Before this paper presents the study, it continues the introduction by exploring key dimensions of intimate partner violence (IPV), safety planning, technology-facilitated abuse (TFA) and some connected theoretical feminist insights.

Context

Intimate partner violence (IPV) and safety planning

Intimate partner violence (IPV) or Domestic Violence (DV), terms used interchangeably to describe the same phenomenon, is a widespread social and public health problem which affects approximately one in three women worldwide (World Health Organization, 2013). The Council of Europe (2011) defines DV as any physical, sexual, psychological, or economic violence that occurs between former or current spouses or partners. It can occur either face-to-face or through digital means. IPV is caused by and reflects gendered patterns of power and privilege in society (Dobash & Dobash, 1979; Schechter, 1982). It is widely recognised that IPV is a gendered phenomenon primarily affecting women (World Health Organization, 2013) and, to a lesser degree, men. Thus, this paper utilises gender-based language, which recognises that the majority of survivors in heterosexual relationships are women. However, the authors acknowledge that both women and men in same sex and opposite sex relationships as well non-binary and other marginalised gender identities people may be survivors and more importantly, recognise, through an intersectional lens, how intersecting structures of oppression, such as those based on class, race, marginalised gender identities, sexual orientation, will put some people at greater harm.

The main motive of DV is considered the attempt to exercise control over the relationship, which both reflects and reinforces gender inequality (Pence & Paymar, 1993; Stark, 2007). Evan Stark (2007), a social worker, discusses the myriad ways in how perpetrators aim to isolate, degrade, intimidate and control survivors. These tactics are not incident specific but transcend time and space and the latest technological advancements have provided opportunities for perpetrators to enact control without being physically

present. Technology has influenced how IPV is perpetrated, experienced, and therefore, needs to be addressed.

Research on DV is shaped by different disciplines, such as social work (e.g. Dominelli, 2002; Danis, 2003; Stark, 2007; Theobald et al., 2021; Childress et al., 2024; Olsson et al., 2024) and geography (e.g. Warrington, 2001; Pain & Scottish Women's Aid, 2012; Pain, 2014; Brickell & Cuomo, 2020; Cuomo & Dolci, 2021). The social work profession consistently works with women and their children who have experienced DV (Danis, 2003; Stark, 2007; Williams et al., 2023) and so it is important to be up-to-date with the newest developments in IPV as they pose additional challenges.

A number of measures are necessary to address IPV, ranging from education, legislation, and services (both for survivors and perpetrators) to radical restructuring of society along egalitarian lines (Council of Europe, 2011; Pentaraki, 2013b). Safety planning is one of the main components of these, and it has been used in refuge/shelter and victim advocacy services for several decades.

Safety planning refers to safety measures used to reduce the risk of abuse and potential abuse and increase safety either within a relationship or post separation (Lindhorst et al., 2005; Hoyle, 2008; Kress et al., 2012; Murray et al., 2015). It includes providing information for victims, such as contacts for local support agencies, discussing and planning safety strategies (including safety tips) for women and any children involved following assessment of a survivor's both short term and long-term needs (Lindhorst et al., 2005; Hoyle, 2008; Kress et al., 2012; Murray et al., 2015). The primary aim of a safety plan is to achieve safer situations for women experiencing domestic violence. It is based on two critical assessment components (Lindhorst et al., 2005; Davies & Lyon, 2014). The first component entails an appraisal process that recognises the threatening situation and the potential harm that might stem from that situation. The second component involves how the threatening situation can be addressed (Lindhorst et al., 2005). Overall, such planning shapes a survivor's perception of the circumstances and risks and also their options and capacities to become safe. Furthermore, safety planning is essential to the empowerment of women.

Safety planning is developed through a collaborative process between professionals and survivors (Murray & Graves, 2012). It is based on a contextualised assessment with survivors to identify risks, harms and choices (Lindhorst et al., 2005; Murray et al., 2015; Woodlock et al., 2019). The development of a comprehensive safety plan presupposes that different forms of abuse and the risks they pose can be assessed and appropriately accounted for. It also presupposes that advocates and survivors are aware of the forms of abuse and the risks they pose in order to develop safety strategies to address them. However, available research has indicated that updated/renewed forms of harms perpetrated though technological means have emerged which are largely not known to survivors and advocates (Harris & Woodlock, 2018; Douglas et al., 2019; Lopez-Neira et al., 2019). These harms perpetrated by technological means are referred by different names including technological abuse, tech abuse (Slupska & Tanczer, 2021), technology-facilitated abuse (Harris & Woodlock, 2018; Leitão, 2019; Lopez-Neira et al., 2019; Fiadeiro et al., 2023), technology-facilitated domestic abuse (Brookfield et al., 2024), technology-facilitated domestic and family violence (Douglas et al., 2019), and digital coercive control (Woodlock et al., 2019) amongst others. All these terms though refer to the exploitation and weaponising of digital, hardware and software technologies in pursuance of coercive and abusive tactics typified by stalking, surveillance and harassment. The authors of this paper have chosen technology-facilitated abuse (TFA).

Determining and measuring the prevalence of TFA is challenging due to the increased availability and development of digital devices and technological capabilities (Rogers et al.,

2022). However, there is evidence that it is widespread and that disproportionally the survivors are women (McGlynn et al., 2017; Henry et al., 2020). In the UK, a survey by Women's Aid of survivors found that 45% of female participants had experienced TFA during their relationship, and 48% reported TFA post-separation (Laxton, 2014).

The consequences of TFA have been harmful and wide ranged according to a recent scoping review (Afrouz, 2023) of available research studies (*n=22*) relating to 5 countries (Australia, USA, Canada, UK and Brazil). These consequences included feelings of fear, insecurity, intrusion, isolation, disbelief, confusion, guilt and shame. The review indicated that even without being physically present, abusers could control victims'/survivors' relationships and behaviours. A pattern of coercive control has been at the core of IPV (Dobash & Dobash, 1979; Pence & Paymar, 1993; Stark, 2007; 2018). This coercive control element of IPV is intensified by the technologically updated means that perpetrators have at their disposal, which has led scholars to refer to TFA as a 'new tools, old abuse' (Cuomo & Dolci, 2021).

TFA renders abuse spaceless and omnipresent, which can lead to survivors/victims experiencing 'mental torture' (Woodlock et al., 2020). Although some abusers may have specialised knowledge and use specialised technological tools, such as the ones employed by smart homes and or other specialised apps, the majority utilise every day technology which is affordable and accessible, such as the location tracking capabilities of smartphones. Their abusive behaviours are facilitated "through the existence of dual-use systems" (Strohmayer et al., 2022, p. 63). In 2018 the global number of apps was 5 million (Clement, 2019). By 2022, there were 255 billion app downloads worldwide, a rise of 80% since 2016 (Ceci, 2023). These included many incorporating location-based services such as phone finders, travel trackers for taxis, buses, and airplanes and other location-based sensors such as baby monitors. Such location technologies can be appropriated by perpetrators who have access to survivors' digital and other devices to intensify their surveillance and spying (Freed, 2018; Shulruff, 2022). This can encompass access to Wi-Fi codes and passwords and the use of remotely controlled apps to monitor the victims' comings and goings in the home or their location beyond the home while walking, exercising (via fitness tracker) in a car, taxi, or plane (via flight trackers). Spyware or computer monitoring software (often available free of charge) has the capacity to track most internet-based activities (Southworth et al., 2007; Molnar & Harkin, 2019).

In addition to smartphones and their connected apps, smart homes as part of the 'Internet of Things' (IoT), present diverse, new opportunities for IPV perpetration. The IoT generally refers to 'smart' internet-connected devices (Mohan, 2014; Lopez-Neira et al., 2019; Slupska & Tanczer, 2021; Tanczer, 2023) often in the home ('smart' home), which can be controlled through for example the use of mobile apps on smartphones and 'home assistant' technologies like Amazon's Echo and Alexa, and Google Assistant. Available statistics report a growth in smart speakers; for example, in the USA, between 2018 and 2021, the number of smart speakers increased from 47.3 million to 91 million, with a forecast rise to 95 million in 2022 (Laricchia, 2022). A characteristic of these technologies is the facility for the remote control of hardware devices and software. Through the IoT and the use of technological home assistants/smart speakers, control can be exerted over the entire interconnected home and beyond. They can be programmed and operated externally (most frequently by mobile phone) for example, to remotely turn up and turn down heating/air-conditioning/the volume of the TV, open and close the curtains, lock and bolt doors. Such impacts are embodied and sensory invoking heat, cold and noise, which can be used to frighten, entrap and intimidate women, thereby adding new dimensions to surveillance and abuse.

Stalking has always been a major characteristic of the perpetration of IPV, and technological advances offer wider possibilities (King-Ries, 2010; Harris, 2018; Messing et al., 2020). King-Ries (2010) reported that 26% of stalking victims are stalked using technological methods like GPS based monitoring and tracking, digital surveillance and spyware. Messing et al. (2020), in their south-west USA based survey of women residing in emergency shelters and service-seeking survivors of IPV observed that ca. 60% of them reported monitoring, online harassment and cyberstalking. A relationship between stalking and violence has been identified in which 80% of intimate partner stalking is associated with physical violence, and stalking was experienced by 76% of women killed by their intimate partner (King-Ries, 2010).

TFA has not only been used directly against survivors but also indirectly through their children (National Network to End Domestic Violence, 2019; Pentaraki, 2019a; Nikupeteri et al., 2021; Dragiewicz et al., 2022). It is widely known in the domestic violence field that perpetrators have used children of survivors to abuse their mothers (Beeble et al., 2007; Dragiewicz et al., 2022). In the case of TFA, akin to the eponymous 'Trojan horse', remotely controlled devices can be hidden in gifts in such items as cameras in children's toys, with the recipients having no idea that they are there, activated and being used to surveil/stalk them.

These technological means highlight the ability of the perpetrator to control the time and space of the survivor 24/7 without being present in person. Unlike the perpetration of physical abuse that requires the perpetrator to be in the same space at the same time as the survivor, TFA does not need it. Perpetrators' surveillance tactics break and defy space and time constraints. According to Harris (2018), technology provides new spaceless channels through which perpetrators can perpetuate harm. Technological tools used to perpetuate surveillance allow the perpetrator to intensify control and, more generally, broaden the scope of abuse perpetuated against survivors.

The reported impacts on women victim-survivors of TFA include how, unlike other forms of abuse, it crosses boundaries, invades private spaces and creates a sense of never being able to escape the perpetrator's reach, torment and control, even when physically removed from them (Harris & Woodlock, 2022).

These impacts of digital technological tools were highlighted during the COVID-19 pandemic (Brookfield et al., 2024) as the implementation of lockdown measures increased the coercive control element of abusive relationships and the opportunities for TFA (Pentaraki & Speake, 2020; Barter & Koulu, 2021; Women's Aid, 2022a, 2022b; Pentaraki, 2023; Speake & Pentaraki, 2023; Kim & Royle, 2024).

All of the instances of TFA discussed above involve the exploitation of digital technology to harass, monitor and harm survivors and to pose increased risks to the safety of survivors. These risks need to be effectively assessed during safety planning in order to increase survivors' safety, especially during rapidly changing conditions and extreme events such as COVID-19 which pose additional challenges (Pentaraki & Speake, 2020; Tsang, 2021; Speake & Pentaraki, 2023). However, to date, there has been little academic research on these risks and their assessment during safety planning (Lopez-Neira et al., 2019). This paper aims to contribute to filling the gap by exploring the knowledge of professionals working in the field of domestic violence about digital technological abuse and safety planning. The focus on safety planning and its implications is what distinguishes this research from others. Before we present the study, this paper will turn now to provide some theoretical insights related to technology and gender.

There is a danger in blaming technology for the harms it causes to women. However, it is not technology and its advances that are to blame for TFA and related harms; rather, it is gender inequality (Dragiewicz et al., 2018). TFA is a consequence of structured gendered disadvantage. According to feminist theories, "technology is conceptualized as both a

source and consequence of gender relations" (Wajcman, 2010, p. 143). This gendering of technologies then is understood "as not only shaped in design but also shaped or reconfigured at the multiple points of consumption and use" (Wajcman, 2010, p. 149). This becomes evident with the way that products of these digital systems infrastructures can facilitate multiple forms of gender-based violence against women such as IPV, thus surveillance capitalism, a concept introduced by Zuboff (2019) to refer to encompassing digital systems infrastructures constantly monitoring all aspects of online behaviour to extract profit for corporate interests, is better conceptualised as patriarchal surveillance capitalism. The authors recognise though, that a more nuanced definition is needed, such as the one conceptualised by b. hooks when she writes about the 'capitalist imperialist white supremacist patriarchy' (hooks, 2003). This will better reflect that TFA, as all forms of abuse, harms those oppressed mainly by the existing interlocking systems of domination. Thus, it calls for an intersectional and structural approach (Bailey & Burkell, 2021).

In addition to TFA in intimate partner relationships, recent research has identified a wide range of gender-based violence that is perpetrated/enacted/mediated by the weaponisation of technology, such as cyberbullying, sexual harassment, image-based abuse, threatening, and trolling or gendertrolling (Bansal et al., 2024). The online world reproduces "the preexisting problems within society such as gender inequality and gender-based violence" (Brown et al., 2018, p.212). It is a male-dominated space that reflects society's unequal power relations. In this context, similarly, women are degraded and continue facing marginalisation and abuse. Therefore, abuse in the online environment or through digital means mirrors the patriarchal approach that results in gender-based violence and gender inequality and exists in almost all societies (Brown et al., 2018; Faith, 2022; Bansal et al., 2024).

Methods

The present study is a small explorative qualitative study aimed to address the gap in current research on technological abuse and safety planning. It focuses on professionals' experience and perspectives on TFA risks during safety planning. Ethical approval for the research project was granted by the relevant university ethics committee.

The study was conducted in June 2019 in Spain with six professionals working in the field of domestic and sexual violence in urban settings in four European countries: Estonia (*n=1*), Finland (*n=2*), Greece (*n=1*) and Northern Ireland (*n=2*). They were recruited through one of the author's professional networks. All were women with professional experience in this area ranging from five months to nine years, with an average of eight years. They all had an undergraduate degree, and two had a master's degree. Their age ranged from 29 years to 55 years old, with an average age of 48 years. Even though the number of participants was small, as Guest et al. (2006) have asserted, six interviews can be sufficient for meaningful themes and useful interpretations to be developed.

The qualitative methods used comprised interviews and a group discussion. The interviews and the group discussion were semi-structured with research questions designed to obtain insights into the interviewees' knowledge and perspectives on technological abuse and its newest forms, their current planning safety practices for technology-facilitated abuse and possible ways to improve it. All of the interviews except one were conducted by both researchers (the authors). The interviews lasted from 15 to 45 minutes, with an average of 30 minutes. The group discussion lasted 55 minutes. A debriefing session followed, where TFA safety related recommendations were provided and

discussed. This debriefing session can also be seen as a professional development intervention as it also aimed to fill the identified lack of knowledge.

The authors made a written record of the interviews and group discussions. All the participants had a good command of English, but as English was not the first language for most, the transcripts were edited (by the authors) for clarity. Each participant was assigned a sequential number (in interview order) from P1 to P6 to protect anonymity.

The authors made a written record of the interviews and group discussion, and this text was thematically examined manually to identify, analyse and report patterns (i.e. themes) within the data (Braun & Clarke, 2006, 2012) by the authors in order to be able to identify the key issues raised. The inductive approach taken (Braun & Clarke, 2022) focussed on the identification and theming of key issues raised by the participants themselves rather than by the authors *a priori*. The three main themes identified in the current study are presented in the next section.

Findings

The principal outcome of the process of reflexive thematic analysis was the production of three themes that identified key barriers to the assessment of technology-facilitated abuse during safety planning. These barriers are related to a number of factors, including a lack of specialist knowledge and training, continuous technological advances and a lack of resources. There was a consistency in participants' comments, regardless of the specificities of the welfare regimes of the country in which they worked.

Theme 1: "I do not have any information"

Barrier - Lack of updated and specialist knowledge of technology-facilitated abuse (greater need for such specialist knowledge and corresponding technical capabilities)

The first major barrier is that participants reported that they lacked knowledge and information about the latest forms of technological abuse. In most instances, they were aware of the better-known mechanisms of digital surveillance, such as phone call monitoring, social media abuses and stalking via GPS enabled phones, but lacked the knowledge of technology-facilitated abuse perpetrated through recent apps, smart homes and the IoT. As one participant (P3) succinctly said, there should be more *"knowledge of all the opportunities that perpetrators will use to [perpetuate abuse]"*. Participants also remarked on how the continuous advancement of technology is hard to keep track of. As P3 stated:

> *"We have developed a list with the risks posed by technological abuse but we are aware that there might be gaps in [identifying] some of the new forms […] just recently we have realised that we are missing some but we still have not updated it".*

Similarly, participant P4 discussed the need to *"be both proactive and reactive, i.e. have an updating strategy [incorporating all the emerging forms of abuse*]". She also articulated the need to have proper legislation to account for these new forms of abuse. Furthermore, participant P5 specifically mentioned the *"need for lots of good information on abuse perpetuated through the 'smart house' system".*

Other reasons they cited for the lack of updated knowledge were the lack of training, the lack of other stakeholders' involvement, and the lack of widely known information.

The majority of participants stated that they had not had any training on technological abuse. One participant (P5) also commented that the other stakeholders addressing IPV, such as the police, are also not aware of technologically facilitated abuse, saying:

"I do not have any information … even from the cyber-crime police about technological induced abuse. I do not know if it is even considered a crime in my country".

Theme 2: "Women don't know that their husbands are tracking them"

Barrier - Don't tell, don't ask

The second main barrier to assessing the risks posed by TFA was related to the approach used by some participants during assessment. According to some participants, it was only when survivors raised concerns about technological abuse that they were considered. As one of the participants (P1) stated *"If they don't tell, I don't ask"*. Similarly, another participant (P5) outlined how [women] *"describe the situation as it is and then we fill the information as it is"*. The same participant continued:

"Only if a woman flags up technological abuse I will address it during safety planning. Each safety planning is based on what women address".

However, this approach was also challenged when participants discussed that perpetrators can use various technological means to perpetrate abuse, which the survivors may not immediately recognise. P1 reported that women survivors:

"Usually [they] do not even think that they might be bugged. Sometimes they figure it out when they see it".

Similarly, P3 stated:

"The majority of women do not recognise they are abused. It is the same as every other form of abuse. For example, it is only after we discuss with them the power and control wheel [reference to the wheel developed by the Duluth Model see Pence & Paymar, 1993] that they realise that they are abused, thus, what we might need is a tool to assess technology-facilitated abuse".

The same participant suggested that the development of such safety assessment tools should involve victim support counselling service managers, helplines and support and case workers. Moreover, another participant (P2) stressed that there might be certain categories of women, such as asylum seekers, who, when compared to their husbands, have less technological knowledge:

"Women don't know that their husbands are tracking them. In [name of country], many women we work with are asylum seekers. They use Facetime and Facebook. However, they do not have the knowledge that they can be tracked through Facetime and Facebook. Thus, the first thing we do is to ask them to disable the tracking services".

Furthermore, the woman centred approach can still be maintained throughout safety planning when survivors are the ones who make the choices on how best to address the risks posed. A professional, though needs to have the knowledge to ask certain questions. P3 also added that:

> *"…we have constructed a list but we are aware that there might be gaps in [identifying] some of the potential trackers' capacity for abuse. Since we have constructed it we realised that we had not included Skype".*

P2 also pointed out limitations in their current safety planning, saying that it is not *"customised for technological abuse"*. Despite this, they covered digital surveillance such as mobile phone and location tracking with women, even if the women themselves did not raise it directly and added that they:

> *"…include recommendations for women to have a hidden phone and can add elements of cyber-abuse such as changing passwords etcetera".*

P1 highlighted that some existing advice based on current technologies might not always be the most appropriate as:

> *"…women are in survival mode. Women may not want to switch off, they may get 100 messages harassing them threatening them, they often stay reachable … you do not change anything in the environment to make him suspicious but make the plans … when you plan you need to be much more careful".*

She also said their current safety practice included helping unplug and debug electronic gadgets and phones. They also realised the cost implications of acquiring new phones and seeking appropriate specialist IT/phone advice.

Theme 3: "We have hundreds of people on our waiting list"

Barrier - Insufficient resources and underfunding

The third major barrier for TFA identified was insufficient resources due to underfunding. Participants were able to identify the gaps they had in addressing technologically facilitated abuse, but at the same time, the majority were working in resource constraining environment. As participant P4 stated:

> *"The agency I work with just got a three-year contract to provide services and this is the same amount we got 10 years ago. We have hundreds of people on our waiting list. There is a 6 months' waiting list. This vile government should be shamed for asking us to do more for less*".

The same participant continued discussing the need for *"consistent funding and […] proper legislation"*. Furthermore, P1 stated that there is a high cost involved not only for the agencies but also for the survivors to implement the safety measures needed to address the risks posed by technology facilitated abuse. She mentioned that the current safety plan

includes debugging mobile phones but that if this is not possible, then there are high-cost implications in acquiring new phones and seeking appropriate specialist IT/phone advice.

Overall, these three major barriers provide the basis/inform for the following discussion of their implications for assessing TFA.

Discussion

This small explorative study with professionals working with survivors of domestic abuse indicates that assessing for technological abuse is not built into all processes of safety planning. A number of barriers have been identified by the participants of this study such as lack of updated knowledge, insufficient resources and underfunding. The barriers identified paint a picture of agencies needing support to build further their capacity to effectively engage in safety planning.

These findings concur with the identification of the lack of knowledge about technological abuse reported amongst service providers within other recent studies (e.g. Murray et al., 2016; Douglas et al., 2019; Flynn et al., 2023; Brookfield et al., 2024). Primarily, risks that might be assessed and thus the nature of support that is offered relate to mobile phones, satnavs, laptops and social media platforms (Tanczer et al., 2018), but often only if a woman survivor flags it up. However, not all survivors know about the risks of technology-facilitated abuse (Douglas et al., 2019; Lopez-Neira et al., 2019). Many are unaware of the threats to their safety posed by the latest forms of technology, might not understand technology or have the technological skill of their abuser (Douglas et al., 2019; Lopez-Neira et al., 2019). It seems that professionals and survivors share a lack of knowledge about TFA.

This shared lack of knowledge and unawareness of professionals and survivors may reflect a gender digital divide (Martinez-Cantos, 2017; Lechman & Popowska, 2022), a result of gendered structural dynamics of power. Survivors' autonomy and personal power are compromised when they are subjected to digital surveillance technologies, but, at the same time, the lack of knowledge of service providers, predominantly women, reinforces their unequal status as a result of structural inequalities. The experiences of IPV are inherently disempowering for survivors as they are subjected to coercive control by the abusive partner, which denies their personal agency and autonomy (Busch & Valentine, 2000; Stark, 2007; Wood, 2015). This coercive control is further intensified by TFA. Personal power can be partly enhanced by an effective safety plan, which can create a safe space for the survivors to make their own choices without the fear of continuous abuse. Powerless groups such as IPV survivors become empowered when they gain power and access to knowledge (Busch, & Valentine, 2000; First et al., 2017). The quest to empower survivors of IPV has been a constant aim of professionals, such as social workers, working with them (Busch & Valentine, 2000; Wood, 2015).

However, as service providers currently operate within the under-funded conditions of austerity and patriarchal surveillance capitalism, the empowerment process of women is being undermined. As a participant stated: "It is difficult to remain knowledgeable within a context of underfunded services". These underfunded conditions do not enable the professionals to seek professional development to address their lack of knowledge about TFA. This finding is important, given the centrality of empowerment to practice when working with women survivors of abuse. An empowerment approach, one which aims to mediate the power and control of the abuser, is compromised (Wood, 2015) by the lack of

technological knowledge and effective advice about technology. The repercussions of the lack of knowledge about TPA by professionals and survivors alike have serious implications for the provision of appropriate support (Douglas et al., 2019; Lopez-Neira et al., 2019). Professionals with limited knowledge of the various forms of technological abuse cannot engage effectively with assessing and minimising the risks that TPA poses (Woodlock, 2017; Woodlock et al., 2019).

Keeping up-to-date is challenging, given the rapidity of technological advancement, the myriad opportunities it affords abusers, and the resourcing pressure faced by many service providers (Douglas et al., 2019). Nonetheless, it is vital that safety planning strategies, at all levels, are updated regularly to reflect the impacts and implications of new forms of technological abuse and to develop more effective ways of mitigating their effects and better supporting women. This can be achieved by reviewing and updating current guidance and training through a multidisciplinary approach drawing upon the expertise of professionals and researchers from a range of appropriate fields, including those with detailed knowledge of the (new) technology and its capabilities. This has also been identified in other studies, notably Douglas et al. (2019), Lopez-Neira et al. (2019) and Harkin & Merkel (2023).

All of the professionals in the present study reported the need for training to enhance their ability to engage in comprehensive safety planning and assessment of the potential risks posed by various technological means. This can be addressed by identifying the various types of technology, such as internet connected apps, social media and communication channels, that might be used by the perpetrator. Professionals should also assess the knowledge about technological abuse that the survivors might need. This necessitates the development of accessible and easily understood resources that can be utilised by professionals, agencies and survivors and be updated regularly. Some such resources have started being developed, like the Safety Net of the National Network to End Domestic Violence (NNEDV, 2019) in the USA, and in Australia, 'eSafety Women' which is an online resource of Australia's national independent regulator for online safety (eSafety Commissioner, 2019a). These resources aim primarily to inform women survivors and others about technological devices that can be found at home, work, study, outside or in a car, which may pose a risk and also how these risks can be addressed (eSafety Commissioner, 2019b).

In the UK, Refuge (2021; 2024a, 2024b) and Women's Aid (2024) provide similar information support for women survivors of technological abuse and their children. However, there are both limits to and possibilities for technological based solutions, as reported by Harkin & Merkel (2023). It is well known though, that safety planning, as any other individualistic safety work (Kelly, 1988), cannot dismantle the unequal gendered power relations that IPV reflects and reinforces. Thus, from a social justice perspective (Thompson, 2021), TFA needs to be addressed at the personal, cultural, and structural levels. To focus only on one level is reductionist and risks a degree of victim blaming. This victim blaming may emerge when women survivors are framed as unknowledgeable or unwilling to help themselves by technologically disconnecting from devices perpetrators are using to perpetuate abuse (Afrouz, 2021; Yardley, 2021).

Similarly, within the context of neoliberal patriarchal surveillance capitalism, professionals working with women survivors may be blamed due to their lack of knowledge to mitigate the risks and harms perpetuated by TFA. Knowledge is important, but lack of knowledge is not the primary cause of abuse. Researchers, practitioners and policy makers need to avoid engaging in this double responsibilisation, as it distracts from the structural causes of TFA in IPV as well as from the interlocking systems of oppression (Crenshaw

1991, Dominelli, 2002; hooks, 2003; Hunnicutt, 2009). After all, it is not the technology that fuels abuse but gender inequality (Dragiewicz et al., 2018).

Recognising the need for systemic change as a long-term plan needs to always guide any sort of interventions (does not mean that reformist interventions are ignored). In the meantime, as a direct reformist step, other organisations and services such as the police, legal professions and the criminal justice sector should also develop the technical capabilities and a better overall framework to address TFA (Tanczer et al., 2019; Yardley, 2021).

However, feminist scholars of cybersecurity argue, moving beyond the mere development of better technical capabilities, for inbuilt digital security gendered design (Slupska & Brown, 2022). Engineers, designers and researchers need to incorporate feminist and justice-orientated lenses when they create and test technology so all potential harms, such as TFA, are anticipated and thus eradicated with the aim "to build safer technologies that are grounded in justice and safety for all" (Strohmayer et al., 2022, p. 61).

More resources are required to address the needs of IPV survivors, needs that may range from housing to employment and childcare, amongst others. Systemic change is called for, change that transforms perpetrators into non-abusive human beings, that regulates the market in order to ensure their products and services do not perpetuate harm (Yardley, 2021; Harris & Woodlock, 2018) and overall transforms society so human needs are prioritised over corporate needs (Zuboff, 2019; Pentaraki, 2023). What is needed urgently is a policy level safety agenda, one that identifies all the socio-economic and political factors that contribute to violence against women and seeks to eliminate them. A socio-economic safety policy agenda that addresses the structural, cultural and personal forms of insecurity, violence and oppression, forms which are all interlocking and shaping the experiences of women survivors.

Furthermore, the policy should seek to challenge the underlying social, economic and political inequalities that fuel not only TFA in IPV but all social problems we experience (Wilkinson & Pickett, 2009). The failure to understand how the interlocking systems of oppression operate only leaves current power relations intact.

Conclusions

This small explorative study with professionals working in the field of domestic violence, notwithstanding its limitations - primarily its explorative nature and its small and convenience sample, adds new insights to an ever-changing practice and research context. It indicates that professionals lack the appropriate knowledge to account for the risks that technology-facilitated abuse poses when they engage in safety planning with survivors of IPV. In order to be effective, safety planning needs to account for all the various risks posed, including those posed by technological abuse.

The research found a number of barriers to the assessment of technology-facilitated abuse by professionals during the process of safety planning. Thus, it notes the importance of developing and regularly updating effective safety planning strategies in regard to the latest forms of technological abuse. However, the paper implies that, at best the development of a safety plan which is informed by knowledge on how to address TFA can mitigate its effects and be a way of violence/harm reduction.

Furthermore, this paper highlights the danger of engaging in reductionist and victim blaming approaches when the focus just becomes the lack of knowledge of TFA, and the

need for professional development and wider systematic changes are not sought. Thus, it ends with a call for systemic change in society so that human needs are prioritised, and all structural inequalities are eliminated. A failure to recognise this reinforces and serves the needs of patriarchal surveillance capitalism.

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