Article Title

Generic Personal Safety Applications; empowering victims of Domestic Violence and Abuse? A Practitioner Lens

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Abstract

Bespoke and generic Domestic Violence and Abuse (DVA) Personal Safety

Applications (PSAs) have become a popular choice for strategic crime prevention projects by

those in the criminal justice sector; to achieve justice through digital means as part of the

wider digital justice project. These PSAs have been heralded as tools for the protection,

empowerment, and resilience building of victims in DVA, despite limited independent

evaluations. This article explores the use of a generic PSA, which the police have adopted for

rollout to victims of DVA in one region of the United Kingdom. We undertook a thematic

analysis of data taken from a roundtable and three follow up focus groups with practitioners

from the police, criminal justice, DVA specialist sector, and victim services, alongside the

PSA development team. We found both some support for using this PSA and serious

concerns regarding its use in DVA situations.

Key Words: Personal Safety Applications, Domestic Violence and Abuse, Routine Activity
Theory, Empowerment

Word Count: 6902

Introduction

While domestic violence and abuse (DVA) affects a significant number of individuals, families, and communities worldwide, intersecting cultural, class, religious, gender, sexuality, ethnic and species boundaries (Ali et al. 2016; Baker et al. 2013), it is disproportionately experienced by women and perpetrated by men (Hester, 2013; Stark, 2007; Walby et al. 2017) with women more likely to encounter, repeated, systematic and more severe DVA, resulting in injury and/or death (Long et al. 2021; Monckton-Smith et al. 2016). Contrary to popular belief, much of what constitutes DVA involves a series of not physical, but rather emotional, psychological, economic and financially abusive behaviours. This focus on physical injury persists despite the hyper-regulation of a victim's daily life now recognised in 2015 as Coercive Control in statute; via Section 76 of the Serious Offences Act in our jurisdiction (England and Wales).

Digital technologies are becoming an increasingly popular alternative solution to prevent both DVA and crime more broadly. Specifically, we have seen the growing presence of generic personal safety applications (herein PSAs) to combat crime across criminal jurisdictions. Initially, these were directed towards offences against property (e.g. Mols and Pridmore, 2019; Wood et al. 2021). Following their apparent success, these digital innovations have been employed as one solution for violence against the person. Moreover, many of those promoting PSAs claim they can support, protect, and empower DVA victims.

Here, we present the results of a project that examined the perceptions of practitioners working in the DVA field of a generic PSA (free to download via Google App and iTunes stores). This generic PSA has been promoted for safety planning with medium and high risk DVA victims in one region in the United Kingdom (UK). To the researchers' knowledge, no

other studies have evaluated this generic PSA in DVA cases; thus, we expand PSAs and DVA prevention literature.

We use DVA as an overarching term but acknowledge the debates about naming and defining DVA are ongoing (for an overview, see Groves and Thomas, 2014). However, a discussion is beyond the purview of this article. Similarly, there are differing views on the use of the term victim/survivor (e.g., Dobash and Dobash, 1992; Lewis 2004; Simon, 2018). We use the former because it is the term most commonly used in the Criminal Justice System (CJS) and because two women a week do not survive DVA. We encourage you to read victim/survivor according to your preference.

Background

Both generic and bespoke PSAs are now available across most smartphones, used as tools to reduce the personal risk of victimisation and re-victimisation. This adoption is driven partly by the digital revolution, where technological advancements in general crime detection and prevention have become embedded in criminal justice related practice (Knight and Van De Steene, 2020; Nellis, 2017). The shift to promote PSAs aligns with the theoretical assumptions of both the lifestyles approach (Hindelang et al. 1978) and Routine Activities Theory (Cohen and Felson, 1979); the central tenet of crime prevention strategies within our criminal justice jurisdiction. Put simply, these theoretical perspectives conceive criminality as predatory behaviour, "involving direct physical contact between at least one offender and at least one person or object which that offender attempts to take or damage" (p589) with a convergence of time and space requiring a motivated offender, suitable target(s) and the absence of a capable guardian (Cohen and Felson, 1979). This theoretical orientation culminates in practice whereby victims are covertly required to become risk-aware.

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Policing practices have encouraged individuals to engage in self-protective behaviours to reduce the risk of victimisation (Garland, 2001). In effect, this has shifted crime prevention from the police towards the voluntary acceptance of responsibility to the individual, where individuals are expected to become risk aware and reduce the risk of their own victimisation (Hines and Grabosky, 2010). However, at the same time, the acceptance of responsibility may lead to a victim's self-attribution of blame (Davies, 2015). For instance, Hines and Grabosky (2010) highlight that women are more likely than men to accept more responsibility for preventing personal victimisation, neglecting or negating the offender's responsibility. Put another way, women are more likely to internalise a sense of responsibility for their protection, but this 'responsibilisation' process diverts attention away from the offender to the 'failures' of women to protect themselves from becoming a victim (Davies, 2015).

Cvijikj et al. (2015) suggest that new technologies such as PSAs make logical sense where technological digital innovations can be used to address real-world social problems. In the case of property crime, they can be used by individuals to share crime-related information, illuminating rational motivations for improving neighbourhood and personal safety. However, Maxwell et al. (2019) contend that while PSAs have the potential to reduce fear of crime, they provide limited capabilities to mitigate the vulnerabilities of victimisation. Both Nellis (2019) and Graham and White (2016) recommend that law enforcement use technological innovations in crime prevention to focus on perpetrators and contend that they should be used cautiously by victims, including victims of DVA. Concerns on the ethical issues of using these new technologies remain, including intersectional dynamics recognising the digital divide in access (Selwyn, 2004), the loss of human contact with law enforcement and with victim services (Nellis, 2019) and the invoking of victim precipitation (Lasky,

2019): viewing the commission of a crime because of the choices made by a victim (Timmer and Norman, 1984) or non-action concerning crime prevention in the private domain.

For this reason, the use of PSAs in the context of DVA deserves further attention, mainly because DVA involves a series of not just physical but also emotional, psychological, and financial/economic 'invisibilised' behaviours by abusers (Stark, 2007). In addition, recent research reveals that there remain significant barriers with those working in DVA in the criminal justice arena; when identifying these non-physical tactics of coercive control (Brennan et al. 2018), which do not present in the same way as other crimes such as property crime.

Theoretical Framework

To critically examine the possibilities of this generic PSA in DVA towards keeping a victim safe, we turn to the concept of empowerment. Women who have experienced DVA have expressed a need for a greater sense of control over their lives in setting goals (Rappaport, 1987), making changes that lead to safety and positive psychological, economic, and social functioning, often referred to as 'empowerment.' In community psychology, empowerment is defined as *"a process... by which people… gain mastery over their affairs"* (Rappaport, 1987:122). Here, a person develops their own understanding of what gives an individual power, ownership and control over their situation and what resources to use. This may lead to a series of active processes, gathering the skills to operate independently and employ self-efficient behaviours.

In our view, empowerment begins where women start to engage or enable a space for action (Kelly, 2005). A victim can acquire knowledge or awareness of processes that enable them to regain a sense of control towards their ultimate freedom/liberty. Thus, a victim can recognise their strength, resilience, confidence and autonomy, which may lead to a host of

beneficial outcomes for women who have experienced DVA; including decreased symptoms of depression, improved quality of life, and lower risk of re-abuse (Westmarland et al. 2013). For those who draw from a broad concept of empowerment, an improved understanding of women's resistance to DVA is needed to challenge victimisation discourses that assume women are of disempowered status. Focusing on resistance illuminates if and how women's agentic capacity can manifest, strategically employing various resources to overtly or tacitly reject the dominant socio-cultural norms that foster their oppression.

Researchers have examined how bespoke PSAs advocated by developers can be a tool for a victim to return to autonomy, reduce the risk of re-victimisation/harm, and contribute to their protection and empowerment. For example, Doria et al's. (2020) systematic scoping review of bespoke safety apps used to prevent sexualised violence; revealed security and privacy were of the utmost importance for users, where some felt more comfortable and secure with a PSA. They also noted that some PSAs provided a promising avenue to access support, education and awareness material for sexual violence victims. Lastly, these apps provided "increased knowledge, anonymity, validation and a sense of empowerment" (p.13). Similarly, Mandapati et al. (2015) examined what role the 'I Safety' PSA (a woman-focused security app) can play in protecting women walking home in India. They found that the PSA could be beneficial when a woman may be in physical danger from a stranger. They can alert a call to a nominated guardian using a 'quick and simple' touch mechanism on a smartphone.

While some researchers have highlighted the strengths of bespoke apps, others have highlighted weaknesses and points of concern. For example, Tarzia et al. (2017) draw data from focus groups assessing young Australian women's perceptions on using an intimate partner DVA awareness website and bespoke PSA. They found some benefits on education and awareness raising but stressed that these apps and technological innovations do not "replace the human touch of real-life support" (p.211). This finding, they argue, highlights

how PSAs may not entirely help victims deal with the more acute trauma/mental health impacts from the risk, fear, and direct experience of DVA.

Bivens and Hasinoff (2018) conducted a quantitative content analysis of 215 bespoke apps to prevent sexual violence focused on victims, bystanders, and perpetrators. Their findings revealed that some apps conveyed and perpetuated rape myths, reinforced concepts of stranger-danger, and provided information to potential abusers (e.g. how to target potential victims). Similarly, Rijkse et al's. (2020) examination of safety-oriented mobile apps in urban spaces revealed these apps provide little support to protect users from harm, and could in fact, be weaponised by abusers in the form of surveillance and control.

Overall, of the bespoke PSAs examined in previous research, some are considered helpful for education and awareness raising (Westmarland et al. 2013). Importantly, education and awareness features can provide a liberating and empowering opportunity for victims who can use these features as support to avoid stigma and judgement that may come with face to face contact on disclosing their experience (Mandapati et al. 2015; Tarzia et al. 2017). Nevertheless, others have questioned the suitability of these PSAs in DVA scenarios recognising that they may also pose an increased risk of further abuse and be weaponised by the abuser (Rijkse et al. 2020).

While previous researchers have focused on bespoke apps, to our knowledge, there have been no independent evaluations of generic PSAs targeted in the context of DVA. We situate our analysis of a PSA in the context of empowerment, addressing the gap in the research. More specifically, we examine the perceptions of practitioners working in the field of DVA on one generic PSA, assessing its potential for empowerment.

Methodology

Application Design

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The generic PSA of focus here has been adopted in practice by the police for medium/high risks victims of DVA to use as part of their safety planning strategy. Marketed as "*the smart way to report crime and provide evidence to the police*" which enables the user to *"feel safe, be safe, and stay safe,"* the PSA has the following 'safety' features; 1) A 'tracking/mapping location' with claims by the developers that it allows for 'safe and confident' travel. Users can provide their emergency contacts (guardians) with real-time updates on their movements. They can map their journey from location A to B, and if in danger, their emergency contact(s) (guardian(s)) can report this to emergency services; 2) A recording system. A user shakes the phone to activate audio and visual recording. These recordings are saved on a secure server (not the phone itself) and sent to the user's contacts (guardians). These contacts can then, as the developers state, "*call the police/ambulance if required;"* 3) A panic or 'man down' alert function sensitive to sudden movement, which mimic someone 'falling.' This function initiates a flashing light and high-pitched beeping to alert people (i.e., strangers) nearby, that the user is in danger or distress.

Participants

We adopted a purposive sampling strategy, where participants were selected based on their relevance to the research outcomes. Our focus on practitioners reflects our commitment to prioritising 'practice-based knowledge' where practitioners from (specialised) organisations are commonly interviewed in studies because their relationship with 'service users' affords a depth of knowledge and expertise often inaccessible to others (Coy & Garner, 2012). Our sample was taken from organisations in Community Safety Partnerships concerned with DVA practice in one UK region. Partnership practitioners included representatives from the police, specialist DVA sector, victim support, criminal justice organisations and the PSA developers. In total, we obtained data from 46 participants.

Data Collection

The app design development team provided a face-to-face presentation and simulation of the app's features in real time. We then held a roundtable where all participants asked questions and engaged in a broad discussion with developers about the app. We then invited participants to one of four focus groups. Each focus group contained a mixture of participants from the police, CJS, victim support and the specialist DVA sector. This purposeful focus group design ensured we could obtain various perspectives and stimulate discussion from practitioners working in DVA protection and support roles. We used the same questions across all focus groups. Questions focused on, 1) how the app (might) work(s) in practice in DVA situations, 2) what the positives (if any) for high and medium risk DVA victims might be, 3) what (if any) barriers are perceived with the PSA, its uptake and use for DVA victims.

We obtained ethical permission from our institutional ethics committee. We asked each participant to sign a consent form and select how they would like to be recorded. Most participants requested that we did not use an audio recording. As a result, one researcher acted as the facilitator of each focus group while the other undertook hand-written notes, ensuring a continuous flow in each conversation. We paraphrased the notes back to each group to confirm that they were accurate before transcribing the data and coding using Nvivo software.

Analytical Technique

We used thematic analysis to draw interconnecting themes in our data (Braun and Clarke 2006). A thematic analysis provides a rich and iterative coding practice to capture participants' views and has been used previously to examine practitioners' perspectives (Fereday and Cochrane, 2006). Each researcher coded a sample of ten statements

independently before comparing their findings. We then developed a series of codes to analyse the rest of the data. Thus, we combined a hybrid inductive and deductive coding practice (Fereday and Cochrane, 2006). Following this initial coding, we then synthesised the data into five broad areas of discussion identified in the following discussion.

Findings

We split our findings into five broad themes. We draw attention to similarities and differences between participants, where some participants felt there was a case for using this generic PSA in DVA contexts, and others identified concerns. These themes we summarised as follows; 1) knowledge of the mechanics of how DVA is operationalised; 2) victim blaming; 3) security and privacy design practices; 4) intersectional dynamics of ownership and usability of mobile phones; 5) reporting DVA.

Theme One: Identifying mechanisms and the Operationalisation of DVA and Coercive Control

Participants underlying assumptions and understanding of the operationalisation of DVA behaviour appear to have impacted the perceptions on what role this generic PSA could play in the protection/safety planning of victims of DVA. Several police practitioners voiced the view that the PSA could be easily hidden on a user's phone and thus not easy to view by an abuser. For example;

> "*the application can be safely placed on a victims phone so that abuser would need to swipe three screens away from the home screen to detect it*" (Police practitioner)

Here the assumption is that this non-stealth app, if moved to a non-homepage screen, would result in it going undiscovered by the abuser. Thus, the practitioner(s) suggested that DVA victims can use the app without risk to their safety. However, this was refuted by both victim support services and specialist DVA practitioners. One specialist DVA practitioner emphasised that;

> "*Abusers check their partners mobile phones; it's a really big thing for abusers*" (DVA practitioner)

DVA practitioners drew more attention to how DVA victims routinely describe their ongoing, 'everyday' reality where behaviour is 'micro-managed by their abuser as a course of conduct, including the management of personal items such as phones (Kelly and Westmarland, 2016). Assuming a non-stealth app protects a victim of DVA fails to recognise a vital component of how coercive control is operationalised by an abuser, which may put victims of DVA by intimate partners at risk (see also Rijkse et al. 2020). Thus, the 'safety advice' given to PSA users from the police presents an acute risk issue, especially when a victim is still in a relationship or living with their abuser. This response reflects what Brennan et al. (2018) outline are some of the assumptions at the root of most problems DVA victims experience with law enforcement (see also Munro and Ellison, 2016 for a discussion on why the CJS should be more trauma informed).

Theme Two: Victim Blaming

One CJS participant explicitly articulated narratives of victim blaming when talking about the potential use of the PSA;

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> *"It's great to see victims being encouraged to use PSAs – this will help them to begin*
>
> *taking responsibility for their actions."* (CJS practitioner)

Here, the victim is asked to manage the risk presented by an abuser. Rather than empowerment, this finding feeds into notions of responsibilising victims and victim blaming. That users of PSAs can take some behavioural and situational responsibility to protect themselves encourages a misinformed and harmful way to perceive victims of DVA. Garland (2001) explored the concept of 'responsibilisation' where, alongside other services, a victim becomes part of managing the risk of or 'preventing' a crime. Applied here, adopting PSAs signals that a victim should become more risk-aware, which places the responsibility on a victim to protect themselves. This is a traditional underlying assumption about victims actions, whereby in some way, they precipitate their own victimisation, and thus should take active measures to prevent their victimisation from (re)occurring (Davies, 2015).

Theme Three: Security, Privacy and Design Practices

The app's design provides numerous features that were perceived as tools for supporting victims of DVA that are marketed as quick and easy to set up, efficient and effective. As one of the app designers noted;

> *"If they (victims) feel unsafe, all they need to do is shake their phone to send an alert*
>
> *to contacts to warn they are in danger*" (App designer)

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This position sends a signal to a consumer that this app is easy to use and is what a person needs to be 'safe' (our emphasis). This perceived ease of use presents as a simple tool to aid an individual's personal protection, which could be considered empowering (see also Mandapati et al. 2015).

However, some DVA and victim practitioners questioned the success of these physical features, noting that this type of function does not necessarily reflect the way women both carry and operate mobile phones. For example;

> *'Is there a way to turn off the shake bit? Otherwise, it will go off in women's bags all the time'* (Victim support practitioner)

This participant highlights the instability of the 'man down' (alert a contact/guardian). The function may go off (unintentionally) when a person is not at risk or may not work when phones are transported in bags, noting that women more commonly transport their phones in bags than men who tend to use trouser pockets.

Additionally, another victim support practitioner questioned if the PSA would be helpful outside of a home setting when a woman may be engaging in leisure activities (i.e., exercising)

> *"I'm guessing it doesn't work for runners as running would properly trigger it… and that will limit women's freedom of movement outside, won't it"* (Victim support practitioner)

This observation highlights that the 'man down' function could be activated in error. This participant even suggested it would have a general disempowering effect by prohibiting women's freedom of movement by preventing the uptake of healthy outdoor exercise. In turn, it may disincentivise a potential user from activating this alert function.

These responses highlight an unconscious bias that may be shaping the assumption that women can easily use a PSA because their phone, it is assumed, is stored and transported in an 'easily accessible place' such as a pocket. This assumption, in part, we attribute to the male hand size construction and shape of mobile phones (Criado-Perez, 2000). Subsequently, these phones do not fit in the pockets of women's clothing, and as a result, are often transported in bags. Thus, the PSA is located on a smartphone designed through a male-centric lens and may not work as intended (see Buckley, 1986 on the history of patriarchy in design and Criado-Perez, 2020 on male-centric mobile phone design).

Theme Four: Intersectional Dynamics of Ownership and User Ability

Who owns and can operate a smartphone were considered in the use of this PSA. Several Police and CJS practitioners suggested that smartphone ownership was common and 'part of everyday life.' For instance;

"These days, everyone has a smartphone and uses applications." (CJS practitioner)

Smartphone ownership has increased amongst the general population. In 2020, 96% of UK residents aged between 16-34 owned a smartphone, with 91% aged between 35-54 also owning one (Statista, 2020a). However, the assumption 'everyone' owns a phone and uses apps was challenged by DVA specialist practitioners concerning DVA victims;

> *"Many DVA victims can't afford a smartphone or a phone contract so they can't access Wi-Fi to use this app!"* (DVA practitioner)

The following response from a DVA practitioner challenges the assumption that smartphone ownership is common;

> *"We give clean phones to victims – which are PAYG – so it's not possible for apps to be downloaded, so the advice to do this doesn't keep a victim safe and is counter-productive to agencies supposedly working together"* (DVA practitioner)

The assumption by police and CJS practitioners that everyone has smartphones fails to recognise smartphones as expensive luxury goods. Furthermore, it is now well documented that many victims of DVA experience financial and economic abuse at the hands of their abusers (see Sharps-Jeffs, 2019), which decreases the likelihood of ownership of smartphones by DVA victims. In contrast, both victim services and DVA specialist practitioners demonstrated a greater recognition of the complexity of DVA and non-physical control tactics where victims may be unable (or denied) access to funds due to the control of the abuser over the victim's finances. This issue becomes more of a concern regarding the use of PSAs when these apps require a form of internet access and may not be operational given differential access to WIFI determined via postcode.

One police practitioner recounted the app developers claims from the demonstration and felt that the app being free was of benefit. For example;

> *"A Free PSA on victims phones, helps victims feel safe, be safe and stay* safe." (Police practitioner)

This PSA provides free basic features. However, it also provides the opportunity for victims to subscribe to a commercial security service to call emergency services at an additional cost. This invitation to subscribe to a commercialised security service begins to privatise victim safety and fails to recognise that DVA victims may not have access to the financial means to purchase this advanced and potentially useful feature.

DVA practitioners also drew attention to myths and stereotypes of DVA victims which they felt were embedded in the PSA design;

> *"The PSA logo itself (and its advertising) is pink, and the pictures only allude to a female white young victim in danger… anyone not fitting this stereotype may think the app does not apply to them"* (DVA practitioner)

And an illuminating enquiry was raised by one DVA practitioner;

> *"We are a multi-ethnic community, so what languages other than English does this app come in?"* (DVA practitioner)

Here a DVA practitioner alerted that the design of the PSA is pink in colour, and images used are of a young, white, able-bodied woman. Additionally, the PSA provided a limited number of languages, which developers acknowledged, was based on an underlying assumption that a predominantly English-speaking audience would use the app. The concern from the practitioner suggests this might reduce the likelihood of the app take up by non-white and non-English speaking victims of DVA. Moreover, app developers have reproduced stereotypes and myths around what an ideal victim constitutes in the design of the PSA itself.

(see Christie, 1986 for an exploration of the ideal victim and Maxwell et al. 2019 on gender and apps). Consequently, this serves to (unintentionally) invisibilise already marginalised victims from both using the PSA and thus presumably gaining access to and engaging with the criminal justice system (CJS) and/or support services because they do not fit the 'ideal victim' stereotype.

Theme Five: Reporting DVA

One point drawn on repeatedly by both DVA and victim support practitioners was that this PSA might be redundant, given victims per se tend to choose not to report to the police or access services. As evidenced by the Office for National Statistics (2016), victims prefer to utilise other pathways to disclose and seek support through informal networks of support, including friends, families, colleagues, and neighbours. One participant commented;

> "*What do we do where a DVA victim is completely isolated and doesn't feel they have any safe contacts to trust disclosure too ...but wants to record evidence via the PSA for if and when they feel confident to report?*" (Victim service practitioner)

Victims of DVA repeatedly express that they cannot rely on the Police and CJS professionals to keep them safe or that reporting to these organisations makes matters worse (Neale, 2018). This 'inaction' concerning reporting (as it may be misconceived by CJS practitioners and/or the broader public) adds to the problematic discourse of responsibilisation where women's capacity to resist DVA is only acknowledged and considered as 'resistance' when they report abuse or leave the relationship (Hollander, 2005). Kelly and Westmarland (2016) assert that this is partly a consequence of framing DVA in terms of (physical) incidents in research,

policy and practice. Furthermore, this framing often reflects how abusive men describe their behaviour as incidental rather than as the micro-management and an ongoing, 'everyday' reality of coercive control that does not necessarily involve physical violence (Stark, 2007).

With that said, specialist DVA sector workers helped identify that generic PSAs with these features may work in some situations. Namely, they may be effective in cases of stalking where a victim has ended the relationship or where the victim does not reside with their abuser. While the use of generic PSAs in DVA may not be appropriate as it requires women to invest time, energy, and (sometimes) money into 'keeping themselves safe', it is not to say that the app should be disregarded in other crime prevention scenarios.

Discussion & Conclusion

While some participants believed there was merit in using this generic PSA for DVA scenarios, many identified risk issues and barriers to its success. First, participants felt that this PSA could take some role in allowing victims to protect themselves, such as the feature of making calls to potential guardians (see also Mandapati et al. 2015). However, concerns from DVA specialist sector practitioners highlighted the app's features might serve to exacerbate risks to victims because abusers often monitor victims phone. Moreover, encouraging the use of this generic PSA may reinforce an entrapment structure, where technology, regarded as pivotal to protecting victims, is the 'panopticon' of surveillance of DVA victims (see Havard and Lefevre, 2010). There are still new and adapting forms of technology-facilitated 'tech-abuse' through information communication technologies (ICT), supporting cyberstalking and the hyper-regulation of everyday life via control/coercion for victims of DVA. This generic PSA presents a similar risk. If an abuser has continued access to exercise control over the victim and their belongings, including a phone, which is more likely to go undetected as a coercive abuse tactic comparative to physical violence.

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Second, there was some evidence that CJS practitioners believed a victim could (and should) in some way take responsibility for their own protection. Victims were 'advised' to use the PSA for their own protection. On the one hand, a victim's ability to engage in personal protection could build empowerment. On the other, the perception could be challenged, noting that it feeds into assumptions of victim precipitation and even victim blaming. The way women victims of DVA are 'responsibilised' and then blamed for their abuser's behaviour has become a central feature of the literature and broader society that has unfortunately also infiltrated criminal justice and public health campaigns on DVA (Taylor, 2020).

Third, features such as the 'shake' option in the PSA may well allow quick access to alert a guardian and potentially provide emergency assistance. However, unconscious male-centric perceptions of mobile phone transportation by women mean this function may be redundant. Notably, existing power relations impact technological design, which is not gender-neutral, and thus women cannot enjoy the benefits men derive from their use (Gummurthy, 2004). Consequently, the potential use of PSAs feeds into the same oppressive structures that limit the empowerment of women.

Fourth, the PSA promoted images of an 'ideal victim' (Christie, 1986) of DVA. Notably, it focused on female, English-speaking, young white victims, thus excluding other groups. Doria et al. (2020) note that to increase the effectiveness of PSAs, they must become more personalised. We add that this accessibility must also reflect both a recognition of non-stereotyped victims of DVA and must include multi-lingual features to not exclude the uptake of PSAs by those who are non-English speaking.

Fifth, the assertion that the PSA was free and that everyone has a phone and can download apps voiced by some participants highlights a failure to reflect on the complex dynamics of DVA. Smartphones are expensive as a one-off purchase and are often

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accompanied by monthly phone contracts. Victims of DVA may not be in control of their finances and may experience economic abuse (Sharp-Jeffs, 2019), and smartphones may be unaffordable or inaccessible. Some participants' assumptions that victims of DVA have access to smartphones and PSAs can be used to collate evidence for prosecution cases is thus exclusionary practice. This is not empowering for victims and fails to place responsibility on the abuser. This deviates from the growing need for robust legislative victim support and reinforces the label that those victims who do not report or remain in DVA relationships are 'intractable cases' and 'hard to reach' (HMIC 2014; 2019).

Finally, this PSA does not offer additional information/awareness raising features that could provide vital support for victims who remain in a relationship with their abuser (whether as part of the same household or not). Instead, the app is geared towards active prevention deterrence in an immediate risk situation more likely suited to a public space. The police presumption of a PSA being an optimal and cost saving alternative to calling emergency services (noting the paid features of the app enables access to commercialised private security services), in essence, suggests responsibility for victim safety lies with the victim, over and above the police. Moreover, it may perpetuate a feeling of self-blame for a victim's own predicament or the perception of wasting scarce public resources that may be needed to treat 'more deserving' cases. This means that a victim may be unable to access information and advice on how to escape a DVA situation safely or may not report DVA.

While far more sophisticated than (old style) 'panic alarms' and designed with the best intentions, this generic PSA and its formal introduction into DVA victim protection strategies may contribute to victim blaming and increase the responsibility felt by victims to keep themselves safe. While well intentioned, the lack of a nuanced understanding of coercive controlling behaviour means that this PSA does little to empower victims of DVA. Moreover, the promotion of a commercialised (paid for) platform to support victims of DVA

accompanied here by victim blaming, presentations of an ideal victim of DVA, male-centric design practices, and the mis-conceptualisation of how DVA is operationalised fails to challenge what researchers and activists have documented are the clear social structural foundations of DVA such as misogyny and sexism.

Any future empirical research on PSA use in DVA should use independent evaluations like our approach. PSA developers and promoters have little in the way of evidence of the bold claims made that they provide an effective preventative and protective tool. Instead, these apps may serve to contribute towards the commodification of women's safety. For the protection of DVA victims, independent evaluations are integral to avoid organisational responses where generic PSAs may be ineffectual, or worse still, escalate danger by failing to facilitate victim safety. Instead of adopting PSAs as a primary tool for DVA prevention, a cohesive multi-organisational approach to drive cultural change in organisations that goes beyond managing immediate risk is necessary, rather than viewing generic PSA technology as a solution to help navigate the complex territory of DVA.

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Explanatory Notes

[1] Geo-fencing refers to a location-based service where an app or other software uses GPS, Wi-Fi or cellular data to trigger a pre-programmed action when a mobile device enters or exits a virtual boundary set up around a geographical location. In the context of a PSA, when the location function is activated, it can record this information and potentially alert a guardian to the location of a victim.

Key Messages:

- There are limits to the use of generic personal safety applications in domestic violence and abuse support including, risks of entrapment through technological affiliated abuse, reinforcing victim stereotypes, and financially inaccessible to victims of domestic violence and abuse.

- Independent evaluations are integral to avoid organisational responses where generic personal safety applications may be ineffectual, or escalate danger by failing to facilitate victim safety.