Research Article

Technology-Facilitated Domestic and Sexual Violence: A Review

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Abstract

This article investigates the phenomenon of domestic and sexual violence against adult women using digital communications technologies. The article explores terminological and conceptual challenges and describes the empirical research literature in this field to date in relation to digital dating abuse, intimate partner cyberstalking, technology-facilitated sexual assault, image-based sexual abuse, and online sexual harassment. The article also discusses policy and practice responses to this growing problem, as well as future directions for research. We argue that research and practice need to be guided by existing conceptual frameworks that utilize gender and actor–network theory to understanding the causes and consequences of women's experiences of abuse and violence facilitated by digital technologies.

Keywords

technology-faciliated abuse, digital dating abuse, image-based sexual abuse, online sexual harassment, cyberstalking

Introduction

The launch of the World Wide Web in 1991 is often heralded as a significant turning point in the creation of a modern, global "network society" (Castells, 1996), and yet, it was not until 1993 that the first graphical web browsers provided free and widely accessible public access to the Internet (Faraj, Kwon, & Watts, 2004). Self-described cyberfeminists were optimistic, although not entirely uncritical, of the capacity of

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the Internet and other digital technologies to contribute to social change that would provide a fast-track route to gender equality. Prominent writers such as Sadie Plant (1995) suggested that "women's liberation is sustained and vitalized by the proliferation and globalization of software technologies" (p. 58). Although such arguments can be critiqued for their tendency toward techno-determinism (Luckman, 1999), there can be little doubt that the global web created a feeling of optimism for many feminists who envisioned the breaking down of gender hierarchies through the virtual realities of online space.

At the same time, many feminists remained concerned about the "male centrism" of computer culture. Carol Adams (1996), for instance, posited that "cyberspace cannot escape the social construction of gender because it was constructed by gendered individuals, and because gendered individuals access it in ways that reinforce the subjugation of women" (p. 162). These more ambivalent or even pessimistic views toward technology were reflective of social determinism, whereby existing social norms, structures, and inequalities were seen to precede technology and, in turn, shape how technology was developed, used, and experienced.

A little over 25 years later, and fitting for the 25th anniversary edition of this journal, the Internet and digital technologies have become integrated into everyday life in many parts of the world. From the first smartphones in the mid-1990s to integrated camera–phones and the launch of Facebook in the early 2000s, contemporary societies have undergone a period of rapid technosocial change in terms of access to information and communication exchange. Internet technologies have become enmeshed in social life through a diversity of personal and household devices (referred to broadly as the "Internet of Things"). Technologies also enable individuals, governments, and organizations to access and collate large amounts of personal information, and share it with a rapidity never before seen, whether using digital images (photos, videos, and simulated images), Bluetooth, Global Positioning Systems (GPS), radio frequency identification (RFID), or other means.

The "digital revolution" has given rise to a profusion of new social cultures and practices. The ubiquity of camera–phones, for instance, is linked to the prominence of image-based communication or "visual conversations" (Katz & Crocker, 2015), and the near universal uptake of social media platforms encouraging users to "broadcast themselves"[1] has influenced the blurring divide between public and private life (boyd, 2010). Alongside the vast benefits that digital technologies have bestowed, these same technologies have facilitated opportunities for the perpetration of criminal harms, such as computer hacking, online fraud, and identity theft. Although significant attention has been given to these existing and emerging cybersecurity threats, far less attention has been paid to the diverse ways in which digital technologies are used by offenders to perpetrate or continue the harms of interpersonal violence.

This article focuses on the phenomenon of technology-facilitated domestic and sexual violence.[2] It explores the knowledge gleaned within the nascent research literature and describes a selection of different policy and practice responses to date. We acknowledge that there are many and varied manifestations of technology-facilitated abuse, including cyberbullying, trolling, hate-based harassment, and hate speech,

which are influenced by a confluence of racial, gender, sexuality, age, and disability inequalities that are deserving of equal attention. However, the focus of this article is squarely on domestic and sexual violence against women. In addition, although we recognize the serious nature of abuse and violence against children and within a range of interpersonal dynamics (including against boys and men), in this article, we focus exclusively on adult women. Our rationale for this scope is twofold: First, we seek to respond to the theme of this special anniversary issue, and second, we seek to recognize the paucity of research on technology-facilitated abuse against adult women (e.g., Citron, 2014; Powell & Henry, 2017), as well as the continuing dearth of literature on technology-facilitated abuse in intimate partner contexts (e.g., Douglas, Harris, & Dragiewicz, 2019; Dragiewicz et al., 2018; Harris & Woodlock, 2018; Southworth, Finn, Dawson, Fraser, & Tucker, 2007; Woodlock, 2017).

The first section of the article explores the terminological and conceptual challenges in the emerging field of technology-facilitated domestic and sexual violence. The second section reviews the empirical literature on the prevalence, nature, and impacts of technology-facilitated domestic and sexual violence. The third section then discusses a selection of policy and practice responses to this growing problem, as well as future directions for research. We argue that although it is tempting to exceptionalize or sensationalize the role of digital technologies in interpersonal forms of violence and abuse, or alternatively, to underplay the role of technologies as merely tools or weapons for motivated perpetrators, it is important to recognize the increasingly embedded and intertwined nature of the physical, digital, and biological in seeking to understand this phenomenon. Our analysis is thus informed by technofeminisms (Wajcman, 2004) and actor–network theory (Latour, 1991, 2005), which see both artifacts (including technological artifacts) and humans interacting in complex ways, rendering dichotomies between agency and structure, nature and society, actor and object, and online and offline, as increasingly unproductive. We also argue that gender theory is crucial for understanding the causes and consequences of technology-facilitated domestic and sexual violence, and that future research and practical responses must be conceptually guided by such frameworks.

A Phenomenon by Many Names

Over the past decade, there has been growing attention to different forms of interpersonal violence perpetrated through the use of digital communications technologies. A range of umbrella terms using prefixes such as “technology,” “cyber,” “digital,” “electronic,” “Internet,” or “online” have been used to describe different types of harassment, victimization, violence, aggression, and abuse involving technological devices or platforms. However, there is little consensus among researchers as to the most appropriate term to describe the ever-changing patterns of digital abuse within intimate partner or sexual interaction contexts. Some terms tend toward specificity of the form of interpersonal violence under investigation, such as “technology-facilitated sexual violence” (Powell & Henry, 2017), “image-based sexual abuse” (IBSA) (DeKeseredy & Schwartz, 2016; Flynn & Henry, 2019;

McGlynn & Rackley, 2017; Powell & Henry, 2017), "technology-facilitated domestic and family violence" (Douglas et al., 2019), "digital coercive control" (Harris & Woodlock, 2018), or "technology-facilitated coercive control" (Dragiewicz et al., 2018). Other scholars use broad terms, despite drawing on definitions that suggest a narrower focus on particular sexual or intimate partner violence contexts. Examples include Thompson and Morrison's (2013) study of "technology-based coercive behaviour," which they define as asking someone online for sexual information or posting a sexually suggestive message or picture to someone's online profile. Another is Gámez-Guadix, Almendros, Borrajo, and Calvete's (2015) study of "online victimization," which they define as "pressure to obtain unwanted sexual cooperation or the dissemination of a victim's sexual content through the Internet" (p. 145). Similarly, Reyns, Burek, Henson, and Fisher (2013) use the term "cyber-victimization" to refer to receiving sexually explicit images, as well as harassment and sexual solicitation.

The plethora of different terms is matched by the variety of definitions of what constitutes online abuse, or abuse involving digital technologies, which creates a key challenge for researchers and policy makers alike.[3] Such differences make it difficult to compare and contrast studies, particularly those relating to prevalence. For example, some studies examine specific behaviors (e.g., IBSA or cyberstalking), whereas others focus on a wider range of behaviors. Broad survey research on online abuse and harassment represents a further challenge in that the *context, significance*, and *impacts* of the abuse are not always easily captured (Douglas et al., 2019). This may lead to a misconception that abuse involving digital technologies is not influenced by gender dynamics, when some studies find that prevalence is equally high for men as it is for women. In effect, without additional context regarding the nature of the relationship, the presence of other abusive tactics, information on any repetitive and ongoing features of the abuse, and impacts such as fear and psychological distress of victims, the gendered nature and impacts of such abuse may be overlooked (Douglas et al., 2019; Dragiewicz et al., 2018).

The nomenclature of prefixing the digital or technological to highlight the role of the technological artifact in sexual and/or intimate partner violence is not without challenges and criticism. Fiona Vera-Gray (2017), for instance, has noted that the term "technology-facilitated" tends toward positioning the technology as the problem, rather than the broader structural causes of violence against women, such as gender inequality. It is a point taken up by other researchers in this field. Douglas et al. (2019), for example, argue that technology-facilitated forms of domestic and family violence (DFV) "should be understood as a form of coercive control that is inextricably tied to, rather than separate from, DFV and the broader cultural values and practices that engender it" (p. 3). Reed, Tolman, and Ward (2016) also note that digital technologies form part of a "constellation of tactics" within abusive relationships, because they are used as the tools or means to achieve certain perpetrator goals, such as sexual gratification, coercion, retribution, humiliation, and control.

In our work on technology-facilitated sexual violence and IBSA (Powell & Henry, 2017; Powell, Henry, & Flynn, 2018), we have described the ways in which such

behaviors represent *extensions* of sexual violence, often amplifying the impacts on victims, rather than representing necessarily a new or unfamiliar harm. We contend that this nomenclature has the benefit of simultaneously capturing the *facilitatory* role that technology plays in the perpetration of violence, without exceptionalizing this role, or downplaying the sometimes-integral nature of technology in the commission of the offense or the impacts on victims. This includes the use of digital technologies for not only abuse solely perpetrated online but also those acts perpetrated outside of the space of the Internet site, such as secret recording devices installed in the victim's home or other location. The prefix "technology-facilitated" does not preclude, we claim, an analysis of the underlying drivers of the abuse, including gender inequality, as well as racial, social, and other forms of marginalization and disadvantage. Indeed, research and practice must be first and foremost guided by conceptual frameworks on gender, violence, and intersectionality.

Some of the challenges relating to terminology are familiar within broader studies of violence against women and/or gendered violence. In an article titled, "What's in a Name?" Karen Boyle (2019) considers the controversies of naming "domestic abuse," "violence against women," "men's violence against women," and "gender-based violence." She questions whether "abuse" better encapsulates the "range of physically, emotionally, financially, and sexually controlling behaviours women experience" (Boyle, 2019, p. 22). Boyle's overarching point is that it is a significant challenge to find the right language to convey the differential nature of women's lived experiences of violence, while acknowledging the structural nature of that violence, and the ways in which transwomen, nonbinary people, and men's experiences of violence are also influenced by gendered norms, practices, and structures. Yet, in practice, naming a phenomenon or harm is imperative not only for researchers but also to ensure that these issues are identified as requiring further investigation and being the subject of future legal and policy reform.

Boyle's (2019) suggestion, adapting and extending Liz Kelly's (1988) continuum of sexual violence, is that the field of violence against women, or gendered violence more broadly, would benefit from additional "continuum thinking" (p. 20). Boyle highlights the usefulness of thinking through "continuums in the plural" to explore the connections and structural underpinnings of multiple forms of gendered violence (p. 21). We suggest that continuum thinking is likewise helpful for interrogating the role of technology in domestic and sexual violence (Powell & Henry, 2017; also see McGlynn, Rackley, & Houghton, 2017).

Actor–network theory (Latour, 1991) is another useful lens from which to examine the integrated nature of human and nonhuman sociality, as well as technofeminism (Wajcman, 2004), which examines the continued influence of gender relations in human–technical "hybrid" social systems. Continuum thinking in this context is vital, as it is no longer accurate to treat technologies as representing a separate sphere of behaviors, practices, and experiences to those in a material world. Victim experiences of domestic or sexual violence likewise do not occur in a vacuum in which the technological is separate from the nontechnological. Rather, the experience is one of a constellation of abusive tactics, coercive control, and violence, of which

technology-facilitated stalking, harassment, or sextortion (for example) may constitute one part of the abuse as a whole.

Actor–network theory also draws attention to the active role of *nonhuman components* in an assemblage of abusive tactics, which can be understood as more than mere tools in the hands of a human perpetrator. For instance, the technological affordances of social media, such as the "like" and "share" features, represent a complex system of human and nonhuman agency that enable the "viral" spread of, for example, nonconsensual intimate images or gender-based hate material, which becomes algorithmically amplified. In other words, it is a combination of human agency deciding which hateful or abusive content to "like" and "share," along with programs that decide to further distribute, recommend, and "push" content throughout the network (Powell, Stratton, & Cameron, 2018). This provides further justification for treating technology-facilitated domestic and sexual violence not simply as an extension of "traditional" forms of gendered violence, or as a striking illustration of the ways in which domestic and sexual violence have evolved, but also as an exemplification of the complex role that machines and their human counterparts play in subjugation and violence.

Empirical Studies on Technology-Facilitated Domestic and Sexual Violence

In this section, we review the empirical literature on technology-facilitated domestic and sexual violence. In particular, we consider the knowledge to date regarding the role of digital technologies in dating abuse and domestic violence, sexual assault, IBSA, and sexual harassment.

Technology-Facilitated Domestic Violence

Romantic and sexual relationships have radically transformed in the last three decades owing to the proliferation of digital communications technologies, such as email, texting, smart phones, emoticons, webcams, dating websites and apps, instant messaging, video chat, and social media (Hobbs, Owen, & Gerber, 2017). Digital communications technology enables people to seek, commence, maintain, or end intimate relationships in radically new and innovative ways. Although many individuals experience these intimate interactions as fun, exciting, and positive, these same technologies can be used for malicious purposes. Domestic violence support workers have reported the increasing use of digital technologies in the tactics and strategies of domestic violence offenders (Henry & Powell, 2015; Southworth et al., 2007; Woodlock, 2017), and researchers note that it is no longer accurate to conceptualize intimate partner violence as predominantly a face-to-face encounter between perpetrator and victim (Marganski & Melander, 2018).[4]

The empirical literature described below represents a collection of studies that are focused on intimate partner or dating forms of technology-facilitated abuse, encompassing a range of different behaviors, including cyberstalking (surveillance and

monitoring), harassing and threatening messages (online or via cell phone), online humiliation, and other controlling behaviors involving digital technologies and Internet accounts.

Digital Dating Abuse

The majority of attention in the literature to date on technology-facilitated domestic violence has explored "digital dating abuse" among young people. This is defined as the use of digital technologies to coerce, control, pressure, monitor, harass, or threaten a dating partner (Reed et al., 2016). Although different terms are used to describe the same or similar behaviors, many studies examine a collection of behaviors, such as IBSA (taking, sharing, or threatening to share nude or sexual images), password access, surveillance and monitoring, and constant contact (e.g., Draucker & Martsolf, 2010; Hellevik, 2019; Reed et al., 2016). There have been fewer studies examining dating abuse among adults.

According to a recent study with 2,810 Americans aged 15 years and older, Ybarra, Price-Feeney, Lenhart, and Zickuhr (2017) found that 12% of respondents reported having experienced at least one form of "intimate partner digital abuse," which included "being purposefully embarrassed online, being called offensive names, and being stalked." Higher rates were reported in studies by Borrajo, Gámez-Guadix, and Calvete (2015; $n = 433$); Burke, Wallen, Vail-Smith, and Knox (2011; $n = 804$); and Martinez-Pecino and Durán (2019; $n = 219$). These studies found that approximately 50% of college students reported either victimization or perpetration using communications technology in the context of an intimate partner relationship. In Marganski and Melander's (2018) study of college students' experiences of "intimate partner cyber aggression" ($n = 540$), nearly three quarters of respondents reported at least one experience within the past year. Their definition included the use of socially interactive technologies (e.g., text messaging and social networking) by one individual to facilitate harassment against another in the context of intimate partner abuse. They also explored the co-occurrence of "in-person experiences of psychological, physical, and sexual partner violence," concluding that, based on multivariate analyses, "such aggression may be part of a larger violence nexus given its relation to in-person psychological, physical, and sexual partner violence victimization experiences" (p. 1074).[5]

Studies on digital dating violence are mixed in terms of the relationship between gender and victimization. In Ybarra et al.'s (2017) study, women and men were equally likely to report experiencing some form of digital harassment from a romantic partner. In Reed et al.'s (2016) study of US college students ($n = 365$), although men and women reported equal rates of victimization and perpetration, women reported more anticipated levels of distress than men (see also Burke et al., 2011). As for age and sexuality, in Ybarra et al.'s study, respondents below 30 years (22%) were three times more likely than those above 30 years (8%) to report experiences of victimization. They also found that 38% of respondents who identified as lesbian, gay, or bisexual (LGB) reported higher rates of abuse than heterosexuals (10%).

Intimate Partner Cyberstalking

The nature of cyberstalking is constantly shifting owing to the rapid development of new technologies. Primarily, the term has been used to describe a variety of behaviors that involve repeated threats or harassment through the use of digital communications technology, which causes the victim to feel afraid or concerned for his or her safety (Fisher, Cullen, & Turner, 2002). Behaviors include gathering information, impersonation, computer hacking, false accusations, or repeated contact to monitor, harass, intimidate, or threaten the victim in person or via cell phone, email, Internet sites, drone technology, or other means (Sheridan & Grant, 2007).

In a recent US study, it was found that 8% of respondents reported experiences of cyberstalking, with women twice as likely as men to report victimization and LGB respondents almost 4 times as likely to report experiencing cyberstalking (Lenhart, Ybarra, Zickuhr, & Price-Feeney, 2016).[6] In this study, 20% of young women below the age of 30 years had experienced cyberstalking (Lenhart et al., 2016). Fewer studies have examined cyberstalking perpetration, although the research indicates a prevalence of between 5% (Reyns, 2018; Reyns, Henson, & Fisher, 2012) and up to 50% (Lyndon, Bonds-Raacke, & Cratty, 2011), based on college student samples.

As pointed out by Bradford Reyns (2018), "these considerable disparities in estimates are likely due to methodological and measurement differences across studies" (p. 185). Furthermore, the majority of studies on "cyberstalking" capture a broad array of behaviors perpetrated by both known persons and strangers alike. However, existing research shows that stalkers are most likely to be potential, current, or former partners (Alexy, Burgess, Baker, & Smoyak, 2005; Spitzberg & Cupach, 2007). This has led several researchers to narrow their focus to cyberstalking in the context of domestic violence and dating abuse—also referred to as "intimate cyberstalking" (McFarlane & Bocij, 2003; see also Southworth et al., 2007; Tokunaga, 2007) or "online obsessional relational intrusion" (Chaulk & Jones, 2011). These studies recognize that the development of digital technologies, alongside intimate knowledge of the victim, provides perpetrators with easier access to personal information, as well as avenues to communicate with victims and engage in other stalking behaviors, often with impunity (Sheridan & Grant, 2007; Smoker & March, 2017).

Overall, there has been little empirical research on intimate partner cyberstalking. Some exceptions include Robert Tokunaga's (2007) online questionnaire ($n = 51$) with cyberstalking victims to analyze their risk management tactics. In another study, Chaulk and Jones (2011) focused on the opportunities provided on Facebook to engage in online obsessive relational intrusion (see also Lyndon et al., 2011). Few studies, however, have documented the prevalence of either intimate partner cyberstalking perpetration or victimization. One exception is Smoker and March's (2017) study ($n = 689$), in which they found that women were more likely to engage in intimate partner cyberstalking than men and that "Dark Tetrad" traits (Machiavellianism, narcissism, psychopathy, and sadism) were predictive factors of perpetration.

There have also been very few *qualitative* studies on technology-facilitated domestic violence and digital dating abuse. One exception is Dimond, Fiesler, and Bruckman's

(2011) study, where they conducted interviews with 10 women who were residents at a domestic violence shelter in the United States. They concluded that digital technologies are inextricably linked to their domestic violence experiences, which extended beyond the point of separation with their offenders as an additional factor to escape in a "web of entanglement" (p. 420). Weathers and Hopson (2015) interviewed 10 female college students who had previously been in "a digitally abusive heterosexual romantic relationship." The aim of the study was rather narrow in that the authors focused on the communicative experiences and strategies that women adopt to deal with coping with, and moving on from, an abusive relationship. Another is an Australian study in which Douglas et al. (2019) conducted interviews with 65 participants about their experiences of legal system responses to domestic violence. Although participants were not specifically asked about the role of digital technology, 85% in the first of three sequential interviews mentioned that technology was a part of the pattern of offending. Examples included repeated, abusive, and threatening cell phone calls and texts, monitoring and control of cell phones and Internet accounts, and IBSA (Douglas et al., 2019).

In summary, much of the current research on technology-facilitated intimate partner or dating abuse has been quantitative, and based on convenience samples, often with college students. Although there is little consistency in methods, instruments, and definitions, the research suggests that digital abuse within intimate relationships is relatively common. As noted by Brown and Hegarty (2018) in their review of empirical research on digital dating abuse, there needs to be more consistency for future survey research, including clear definitions of key terms, psychometric evidence, and an investigation of both victimization and perpetration prevalence. Brown and Hegarty (2018) further note that improvements to survey quality should include an investigation into the relationship between the victim and perpetrator, clarification of lifetime or time-based experiences, and investigation into more subtle forms of abuse, as well as the impacts of digital dating abuse on victims. In addition, there also needs to be more qualitative research focused on technology-facilitated domestic and dating violence.

Technology-Facilitated Sexual Violence

In this section, we focus on the more sexualized behaviors involving digital technologies. We recognize that these behaviors may or may not be perpetrated alongside others in the context of domestic violence and dating abuse.[7] Although the literature review above focused on intimate relational abuse, in this section, we examine sexual violence as perpetrated by both known persons and strangers alike. We focus on three subsets of behaviors: technology-facilitated sexual assault; image-based sexual abuse (IBSA); and online sexual harassment (OSH).

Technology-Facilitated Sexual Assault

Technology-facilitated sexual assault refers to the use of cell phones, email, social networking sites, chat rooms, online dating sites, and other communications technologies that are used by sexual predators as a means of procuring rape or sexual assault.

This might involve the befriending of the victims on an online dating site before arranging to meet them in person to carry out a sexual assault. Alternatively, it might involve "rape by proxy," where the offender posts messages online calling on third parties to rape or sexually assault the victim (e.g., sometimes pretending to be the victim; Powell & Henry, 2017). In other cases, the perpetrator uses blackmail to coerce the victim into engaging in a sexual act—also known as "sextortion." This can take the form of eliciting private information or a sexual image and using this material to blackmail, bribe, or threaten the victim (Powell & Henry, 2017).

Much of the focus in the literature on technology-facilitated sexual assault and coercion has been on children and adolescents as victims of online sexually predatory behavior (e.g., Beech, Elliot, Birgden, & Findlater, 2008). To date, very little empirical research has captured the prevalence of adult sexual victimization using cell phone apps, dating sites, and other online platforms. Figures from the UK National Crime Agency (2016) show that the number of people who report being raped on their first date with someone they met on a dating app has increased sixfold in just five years, with women representing the majority (85%) of victims of sexual offenses linked to online dating between 2003 and 2015. This was also evidenced in Powell and Henry's (2017) study ($n = 5{,}798$) where one in 10 Australian women and nearly 12% of women in the UK reported that they had an unwanted sexual experience with someone they first met online. Consistent with the studies mentioned below, Powell and Henry (2017) found that young women in particular were more likely to report these experiences. For example, in the UK component of the survey ($n = 2{,}842$), they found that young women aged between 20 and 24 years were almost twice as likely (21.1%) to have had an unwanted sexual experience with someone they first met online as compared with other adult women generally (11.7%).

Other studies have investigated "unwanted sexual solicitation," which includes sexual coercion, such as receiving unwanted requests to talk about sex (see also discussion below on online sexual harassment) or to do something sexual (Ybarra, Espelage, & Mitchell, 2007). Again, the focus of research has been mainly on children and adolescents (e.g., Mitchell, Wolak, & Finkelhor, 2008). In a Dutch study, Baumgartner, Valkenburg, and Peter (2010) ($n = 1{,}765$ adolescents; $n = 1{,}026$ adults) investigated the prevalence of unwanted online sexual solicitation. They found among their adult cohort that 4.6% of males and 6.7% of females reported that they had been asked to do something sexual when they did not want to, at least once in the past six months. This was compared with 5.6% of male adolescents and 19.1% of female adolescents who reported having been unwantedly sexually solicited online at least once in the past six months. In this study, the authors limited "doing something sexual" exclusively to online behaviors.

Image-Based Sexual Abuse

Image-based sexual abuse (IBSA) has received growing attention over the past few years (e.g., Citron & Franks, 2014; McGlynn & Rackley, 2017; Powell & Henry, 2017; Powell, Henry, & Flynn, 2018). This involves three key behaviors: the creation or

taking of nude or sexual images; the sharing or distribution of nude or sexual images; and threats made to share nude or sexual images; (Powell & Henry, 2017; Powell, Henry, & Flynn, 2018). Images can be photographs or videos. Perpetrators may be motivated to engage in such behaviors for the purposes of revenge, sexual pleasure, power, or to seek enjoyment, entertainment, social status, or monetary gain.

There are diverse manifestations of IBSA. Behaviors include, for example, perpetrators surreptitiously photographing or filming the victim without his or her knowledge, in both public and private settings, or recording consensual or nonconsensual sexual encounters without the consent or knowledge of the victim. It may involve the production of digitally altered images that depict the victim in a sexual way, referred to as "fake porn" (or "deepfakes" when involving the use of artificial intelligence; Chesney & Citron, 2018). Other examples include pressure or coercion on the victim to share nude or sexual images, or distributing or sharing nude or sexual images via cell phone, email, social media, and other Internet sites, including so-called "revenge porn" or "ex-girlfriend" websites, where personal details of victims are posted alongside their image. In other contexts, domestic violence perpetrators threaten to share nude or sexual images to force or coerce the victim in some way, or computer hackers threaten to share stolen images to obtain more images, to force the victim into an unwanted sexual act, or to extort money.

Some studies have examined the prevalence and impacts of IBSA victimization and perpetration. The majority have been more broadly on intimate relationships and technology use or technology-facilitated abuse and, as such, do not comprehensively investigate the phenomenon (e.g., Branch, Hilinski-Rosick, Johnson, & Solano, 2017; Dir & Cyders, 2015; Marganski & Melander, 2018). There have been, however, a small number of studies specifically focused on IBSA (e.g., Cyber Civil Rights Initiative, 2014; Eaton, Jacobs, & Ruvalcaba, 2018; Lenhart et al., 2016; OeSC, 2017; Powell, Henry, & Flynn, 2018). It is difficult to compare results across these studies owing to different methods, definitions, and sample sizes; yet, broadly speaking, the research indicates prevalence relating to victimization among adults to be between 1 and 12% in relation to the nonconsensual sharing of nude or sexual images. In relation to threats to share nude or sexual images, existing studies (both broad and more narrowly on IBSA) suggest a victimization rate between 1 and 15% (e.g., Eaton et al., 2018; Gámez-Guadix et al., 2015; Lenhart et al., 2016; McAfee, 2013; Powell & Henry, 2017; Powell, Henry, & Flynn, 2018; Powell, Henry, Flynn, & Scott, 2019; Reed et al., 2016).

To date, very few studies have measured the prevalence of victimization relating to the nonconsensual *taking* of nude or sexual images. Our 2016 study ($n = 4{,}274$) found that one in five (20%) participants had experienced someone taking a nude or sexual image of them without their consent (Powell, Henry, & Flynn, 2018). We also asked female respondents about their experiences of "upskirting" and "downblousing," and found that one in 10 women had experienced someone taking an image of their cleavage without their permission, and one in 20 had experienced someone taking an image up their skirt without their permission. This rate is likely to be an underestimate because many victims remain unaware that someone has taken images of them.

Although some studies have found that, similar to other forms of intimate aggression, women are more commonly the targets of IBSA as compared with men (e.g., Eaton et al., 2018; Lenhart et al., 2016; OeSC, 2017), other studies found either similar victimization rates among both men and women (e.g., Powell & Henry, 2017; Powell, Henry, & Flynn, 2018; Reed et al., 2016), or somewhat higher victimization rates among men (e.g., Borrajo et al., 2015; Powell & Henry, 2017; Reed et al., 2016). In a 2017 Australian study on IBSA (n = 4,122), women (15%) were twice as likely as men (7%) to report experiencing someone sharing nude or sexual images of them without their consent (OeSC, 2017). Like Lenhart et al.'s (2016) study, this study found that age and gender were a significant predictor of prevalence, with 24% of women and 16% of men aged between 18 and 24 years reporting having experienced someone sharing a nude or sexual image of them without their consent (OeSC, 2017).

In addition to gender and age, this study (OeSC, 2017) found that Aboriginal and Torres Strait Islander Australians (25%) were twice as likely to have experienced this form of IBSA in comparison with non-Indigenous Australians (11%). Prevalence was also high for those who spoke a language other than English at home (19% compared with 11%) and among LGB participants (19% compared with 11%; see also Lenhart et al., 2016; Powell, Henry, & Flynn, 2018). In our study (Powell, Henry, & Flynn, 2018), we similarly found that one in two Australians with a disability, one in three LGB people, one in three young people aged 16-19 years, and one in four people aged 20-29 years reported experiences of IBSA. These findings suggest that IBSA victimization experiences reflect the patterns of abuse and harassment common among vulnerable or marginalized groups within the community more broadly.

Few studies have investigated the impacts of IBSA. One exception is the Cyber Civil Rights Initiative's (2014) Effects of Revenge Porn Survey (n = 864), which found that 93% said they had experienced significant emotional distress as a result of their images being distributed online. In the Australian study conducted by the Office of the eSafety Commissioner (OeSC, 2017) (n = 4,122), victims said they felt annoyed (65%), angry (64%), humiliated (55%), depressed (40%), and afraid for their safety (32%) after their images had been distributed. Furthermore, 42% said their most recent experience affected their self-esteem and 41% said it affected their mental health. In our Australian study (n = 4,274; Powell, Henry, & Flynn, 2018), we found that victims of IBSA were almost twice as likely as nonvictims to report experiencing high levels of psychological stress, consistent with a diagnosis of moderate to severe depression and/or anxiety disorder. We also found that many victims reported that they were "very" or "extremely" fearful for their safety as a result of their IBSA experience, with women victims more likely to report feeling this way (Powell, Henry, & Flynn, 2018).

Finally, there have been very few quantitative studies on IBSA perpetration, and like the other research described in this article, prevalence rates are mostly derived from broader surveys on online abuse.[8] Although it is difficult to synthesize the findings given the different sample sizes, definitions, and instruments used, studies indicate an approximate perpetration rate between 12 and 30% of respondents who report sharing nude or sexual images without the consent of the person depicted in the video

or photograph (e.g., Crofts, Lee, McGovern, & Milivojevic, 2015; Eaton et al., 2018; Garcia et al., 2016; Morelli, Bianchi, Baiocco, Pezzuti, & Chirumbolo, 2016; Powell et al., 2019; Thompson & Morrison, 2013).

One problem is that there are inconsistencies with definitions such as "sharing," namely, whether or not sharing included showing or sending photographs, texts, or videos. Furthermore, the majority of studies did not report on gender, age, race, or sexuality differences in relation to self-disclosed perpetration items. In our survey on self-disclosed IBSA perpetration (n = 4,274; Powell et al., 2019), we found that one in 10 respondents reported engaging in at least one IBSA behavior (taking, sharing, or threatening to share nude or sexual photographs or videos). For all individual IBSA behaviors, we found that men were significantly more likely to report engaging in perpetration than women—which was particularly so for men aged 20-29 and 30-39 years. We also found that LGB participants were more likely than heterosexual participants to self-report perpetration, as well as IBSA victims and those who had engaged in sexual selfie behaviors (taking and/or sharing nude or sexual images of themselves).

Overall, the majority of these victimization and perpetration studies have used variable sample sizes, largely convenience populations (such as college student samples), and few have been exclusively focused on IBSA. Moreover, victimization studies are likely to underestimate prevalence because they only include reports from victims who have become aware that their images have been created and/or distributed without consent. Some studies only asked about sharing images on Internet sites and not through other means such as via cell phone. A further inconsistency was that some studies only asked participants about photographs, whereas others asked about text messages, photographs, and videos. Finally, some studies only asked perpetration or bystander questions, whereas others only asked about victimization experiences.

Although survey research provides much-needed insight into the scope of the problem of IBSA, a simple glance at the online websites that host nonconsensual images, often without the knowledge of the victims depicted in the images, reveals a much more complex picture (see Hall & Hearn, 2018; Henry & Flynn, 2019; Uhl, Rhyner, Terrance, & Lugo, 2018). Qualitative research is, therefore, necessary to explore the different types of IBSA and its associated impacts, as well as the gendered nature of IBSA, including causes and impacts. The limited qualitative research on IBSA to date indicates that, increasingly, women are seeking assistance from domestic violence, sexual assault, and community legal services for advice, support, and legal options, in response to IBSA (Bates, 2017; Henry & Powell, 2015; Powell & Henry, 2017). Attention has also been paid to the significant emotional distress that victims experience when IBSA occurs. For instance, victims may retreat from engaging in both offline and online social activities and they may suffer anxiety and depression alongside other social, economic, and psychological problems (Bates, 2017; Citron & Franks, 2014; Henry & Powell, 2015). Gendered victim blaming was also (unsurprisingly) noted in a number of studies (e.g., Powell, Henry, & Flynn, 2018; Walker, Sanci, & Temple-Smith, 2013). No qualitative research has yet been published involving interviews with perpetrators of IBSA.

Online Sexual Harassment

Online sexual harassment (OSH) includes offensive, humiliating, or intimidating conduct that is unwanted or unwelcome and of a sexual nature (Barak, 2005; Citron, 2014; Powell & Henry, 2017). OSH is an imprecise term that can include a range of behaviors, such as unwanted sexual attention or requests for sex, image-based harassment, simulated rape, rape threats, sexual coercion, hate speech, and cyberstalking (for an overview, see Powell & Henry, 2017). In existing quantitative studies specifically on OSH, or more broadly on online abuse and harassment, there have been varied definitions, with some studies only asking participants whether they have been (or have felt) sexually harassed (e.g., Ballard & Welch, 2015; Duggan, 2014; Goodson, McCormick, & Evans, 2001). This is likely to result in underreporting because many victims will not label their experiences as sexual harassment, even if they would have said yes to having experienced behaviors that constitute sexual harassment (Australian Human Rights Commission, 2018). Even among those studies that define OSH and/or ask behavioral questions about OSH, they do so in diverse ways, no doubt due to the ever-changing nature of digital interactions. For instance, Staude-Müller, Hansen, and Voss (2012) define OSH as "receiving pornographic material" or "being asked intimate questions," whereas Gámez-Guadix et al.'s (2015) definition is "some type of pressure through the Internet or mobile phone to obtain unwanted cooperation or sexual contact and/or the distribution or dissemination by the perpetrator of sexual images or information of the victim against his or her will" (p. 145).

Some studies have investigated specific forms of OSH, such as online sexual solicitation (Baumgartner et al., 2010). Other studies have more broadly explored rates of OSH against adults.[9] For example, in a recent survey of Australian participants aged 15-29 years (n = 1,272), 34% reported sexual harassment through social media and 26% via phone (Douglass, Wright, Davis, & Lim, 2018). Of those respondents who had used a dating app in the previous year (n = 537), 57% said they had experienced sexual harassment (Douglass, Wright, Davis, & Lim, 2018). In our study (n = 5,798; Powell & Henry, 2017), we found that 20% of Australian participants and 16.6% of UK respondents reported having experienced OSH in their lifetime, where women reported experiencing significantly higher rates of OSH than men, and more than 32% of young women (18-24 years) in both Australia and the United Kingdom reported having been sexually harassed online.[10] The study found the most common types of OSH were receiving unwanted sexually explicit images, comments, emails, or text messages, followed by receiving repeated and/or unwanted sexual requests online or via email or text.

There has been limited investigation of rates of OSH against lesbian, gay, bisexual, and transgender (LGBT) people. Jerry Finn's (2004) study examined prevalence in different sexuality groups, finding that approximately one third of LGBT respondents (n = 16) reported getting a harassing email from someone they did not know or barely knew (only 16 people took part in the study, which reduces the significance of the finding). In another study examining online abuse experienced by Australian and British adults aged 18-54 years (n = 5,798), Powell, Scott, and

Henry (2020) reported that transgender participants experienced particularly high rates of digital harassment and abuse as compared with cisgender heterosexual adults. The nature of online abuse experienced by transgender adults was significantly more likely to include sexual harassment, as well as sexuality- and gender-based harassment (Powell, Scott, & Henry, 2020). This is consistent with the finding in Douglass et al.'s (2018) study that transgender, gender diverse, and non-heterosexual young people are at risk of not only in-person sexual harassment but also technology-facilitated sexual harassment. Together, what these studies show is that OSH is a common problem and that some groups experience it at disproportionate rates. This is perhaps unsurprising given what is known about the rates of sexual harassment generally.[11]

Additional qualitative research on OSH is also needed to explore in more detail the experiences, impacts, and responses of victims and others. Some qualitative studies on OSH include Jessica Megarry's (2014) case study on the Twitter #mencallmethings, which describes the abuse and harassment that women receive online from men (see also Jane, 2014), and Laura Thompson's (2018) analysis of sexist abuse and harassment against women by men on dating apps.

Legal Responses, Policy Implications, and Future Research Directions

It is clear that more quantitative and qualitative research on technology-facilitated domestic and sexual violence is needed to further investigate prevalence, nature, and impacts. Although some empirical studies do not specifically investigate the gendered nature of technology-facilitated abuse, decades of research on domestic and sexual violence strongly show that gender (and gender inequality) is a key, but not only, factor in understanding both perpetration and victimization experiences. And, as the few qualitative studies on technology-facilitated domestic and sexual violence to date have shown, the gendered context in which such abuse takes place is likewise crucial for understanding these behaviors. As such, it is important that future research, as well as practical responses to technology-facilitated sexual and domestic violence, are guided by existing conceptual frameworks that utilize gender theory to understand the causes and consequences of this violence. The discusson below focuses on a selection of practical responses in this field to date, as well as future directions for research.

Legal Responses

In response to the emergence and proliferation of abuse involving the use of digital technologies, criminal and civil laws have undergone significant reform globally. For example, in many countries, the nonconsensual distribution of nude or sexual images has been made a criminal offense. Some jurisdictions also criminalize threats to distribute intimate images and, in some jurisdictions, the taking or creating of intimate images without consent (which includes the nonconsensual creation of digitally altered images) has been made a specific criminal offense.

There are civil laws in many countries, which may give victims the option of taking offenders to court (e.g., under sexual harassment, copyright, or privacy laws); however, the costs associated with civil litigation are prohibitive for many victims. Some jurisdictions have introduced innovative civil justice approaches to dealing with these issues. For example, in 2018, Australia introduced a federal civil penalty scheme that was specifically designed to provide victims of image-based abuse an alternative justice avenue to the criminal justice system or civil litigation. Under the civil penalty scheme, the Australian Office of the eSafety Commissioner can issue a takedown notice or civil penalties for the nonconsensual sharing of intimate images, as well as threats to share images via the Internet, email, and cell phone.

Legislative responses have met several challenges. For example, in many jurisdictions, the laws pertaining to the distribution of nonconsensual intimate images require the prosecution to prove that the perpetrator intended to cause harm and/or serious emotional distress to the victim, with some laws requiring evidence of the serious harms caused to victims. Such laws are problematic because they fail to capture the diverse motivations for the creation or distribution of intimate images beyond that of revenge, and will not capture situations where the distributor is deliberately concealing the sharing of such images (Henry & Flynn, 2019). Other challenges have emerged in relation to prioritizing the harms of (supposedly) impinging on free speech, versus the harms of technology-facilitated abuse. In Texas, for example, legislation criminalizing IBSA was overturned by the Court of Appeals on the basis that the law was an "invalid content-based restriction and overbroad in the sense that it violates rights of too many third parties by restricting more speech than the Constitution permits" (*Ex Parte Jones, Court of Appeals, 12th Court of Appeals Tyler District* No 12-17-00,346-CR). The court held that the law was in violation of freedom of speech provisions in the First Amendment.

There are also legislative issues in relation to other instances of technology-facilitated domestic and sexual violence. In relation to stalking legislation, for instance, some acts of intimate partner cyberstalking might not meet the legal thresholds for criminal stalking or harassment in many jurisdictions where there is a requirement that the victim feel fear or apprehension in relation to a repeated course of conduct by the perpetrator. In many common law jurisdictions, sexual harassment is only unlawful in specified areas of public life, which means sexual harassment is not against the law in private settings. In other words, although online sexual harassment in schools, universities, workplaces, and other areas of "public life" can be reported, investigated, and acted upon, technically it is not unlawful to engage in these behaviors in a private context, unless it crosses a threshold into criminal activity (e.g., where the victim is a child or adolescent, or where there is blackmail or computer hacking activity).

Finally, a key challenge concerns law enforcement approaches to addressing technology-facilitated abuse. Our research has demonstrated that although police are beginning to treat these harms more seriously, there are five key barriers to action. These include: inconsistent laws, a lack of police resources, evidentiary limitations, jurisdictional boundaries, and victim blaming or harm minimization attitudes (Powell & Henry, 2018; Henry, Flynn, & Powell, 2018). Bond and Tyrrell (2018), who

surveyed 738 police and related personnel in England and Wales, have also pointed to similar problems, including: police knowledge of legislation, their confidence in responding to cases, and the level of training they had received. They found overwhelmingly that police had a limited understanding of laws and lacked confidence in both investigating cases and effectively responding to victims.

One of the greatest challenges across the range of different behaviors (and, indeed, cybercrime research generally) concerns the cross-jurisdictional barriers that make it difficult (or in some cases impossible) to detect, apprehend, and prosecute offenders when they are located in another country or jurisdiction (Henry et al., 2018). Although intergovernmental and cross-jurisdictional law enforcement measures are often mobilized in relation to child sexual offenses (such as the distribution online of child exploitation material), this is rare in relation to technology-facilitated abuse against adults (Henry et al., 2018), meaning that other policy and nonlegal approaches are warranted for responding to and preventing this abuse, as well as more education, training, and resources for police and the criminal justice system.

Policy Implications

Criminal and civil remedies are not always the only or most appropriate response to the harms of technology-facilitated domestic and sexual violence. It is vital that other nonlegal measures are in place to provide support, advice, and assistance to victims and practitioners, and to educate the broader public about its prevalence, nature, and impacts. Some examples of this include increased support and reporting services (e.g., the image-based abuse reporting portal in Australia), the creation of advice hotlines and 24/7 online sites (e.g., the Revenge Porn Helpline in the United Kingdom), as well as Internet companies, social media platforms, and other website providers introducing robust policies prohibiting online abuse, and creating efficient and effective online reporting mechanisms.

In 2015, Microsoft and Google announced new reporting options so that victims can request to have their intimate images excluded from Bing or Google searches. Other platforms such as Facebook, Twitter, Reddit, Tumblr, Pornhub, SnapChat, Instagram, and Flickr (among many others) have also introduced reporting mechanisms for victims of IBSA. In November 2017, Facebook also announced a pilot trial in partnership with the Australian Office of the eSafety Commissioner that seeks to prevent IBSA from occurring on its platforms. In May 2018, the trial was expanded to Canada, the United States, and the United Kingdom with partners including the Revenge Porn Helpline, the Cyber Civil Rights Initiative, the National Network to End Domestic Violence, and the Young Women's Christian Association (YWCA). The trial allows people who are concerned that someone might share an image of them on Facebook (and/or its subsidiaries) to contact the relevant partner agency and complete an online form. The person will then be sent an email containing a secure, one-time link, where they can upload the image(s). A community operations analyst from Facebook accesses the image and creates a "hash" or unique "digital fingerprint" of it, and the image is then deleted. If someone later

attempts to upload or share the image on Facebook or its subsidiaries, they will be automatically blocked, and the image will not be able to be shared. It is important to note that these measures will not prevent images being shared on other platforms, but it is a unique example of the types of nonlegal responses and technologies that are being implemented to respond to technology-facilitated abuse.

Within the field more broadly, victim support services (e.g., in the United States, the National Network to End Domestic Violence; and in Australia, the Women's Services Network [WESNET]) have begun creating online toolkits and resources for victims and practitioners to improve awareness of how and where technology-facilitated abuse might be happening and ways to respond, including providing tips on changing security settings, restricting access to location services, and keeping devices safe. These resources are being rolled out in a range of languages and locations, such as the back of toilet cubicles, doctors' offices, apps, and on websites with "quick exit" options (see, for example, OeSC, 2019).

Further to these developments, there is important policy work needed around the creation of information resources, such as a website and print materials, for victims, advising them of their legal and nonlegal options and the development of prevention strategies through public education campaigns in traditional and digital media, workplace harassment and antidiscrimination resources, and school curriculum packages. This is made possible, in part, through governmental policies on violence against women and children, which are beginning to address the problem of technology-facilitated domestic and sexual violence and invest resources in support, education, and prevention.

Policy and practice initiatives help to address some of the problematic attitudes around technology-facilitated domestic and sexual violence, although much more work needs to be done. In our 2016 Australian survey of IBSA ($n = 4{,}274$), we found harm minimization and victim-blaming views were widespread among respondents (Powell, Henry, & Flynn, 2018). Prevention strategies, therefore, should include content that (a) identifies and challenges the gender- and sexuality-based social norms and cultural practices that underlie the stigma that is directed at victims, (b) redirect responsibility onto the perpetrators, (c) encourage and provide tools for individuals to take action as bystanders and to safely call out victim blaming and shaming where they encounter it, and (d) raise awareness of new legal and support options as they come to fruition.

Ultimately, the prevention work needed to address technology-facilitated domestic and sexual violence aligns with that of the primary prevention of domestic and sexual violence more broadly. Continued policy advocacy (and research, as outlined below) is needed for women's experiences of technology-facilitated harms to be taken seriously by criminal justice systems, whether that is through updating legislation to recognize the harms of such abuse, or educating police agencies to pursue these harms through existing laws that could apply. In short, by promoting gender equality and respect in individual attitudes and behaviors, as well as cultural and institutional practices across all levels of society, we can change the social and structural conditions that underlie technology-facilitated violence.

Future Research Directions

More empirical research is needed in the field to further investigate the prevalence, nature, and impacts of victimization and perpetration, and the experiences of victims, perpetrators, and bystanders. Particular focus should be given to specific instances of technology-facilitated abuse, as discussed in this article, especially those behaviors that have not been adequately studied to date, such as technology-facilitated sexual assault. It is important that there is some consensus on terminology and definitions to ensure continuity and enable comparative analyses, particularly in relation to prevalence. Research is also needed on the experiences and impacts of this phenomenon among particular minority or marginalized groups, such as immigrant and refugee women (Douglas et al., 2019; OeSC, 2019), among others.

Another research gap concerns awareness and knowledge of barriers and enablers to bystander action. In 2017, the Pew Research Center conducted a nationally representative survey of American adults (n = 4,248) and found that 66% of respondents (86% of those aged 18-29 years) reported having witnessed online harassment directed at others. Although 60% felt that people who witness online harassment should step in, only 30% said they had engaged in bystander action (Pew Research Center, 2017). More recently, a study of 738 college students found that bystanders were less likely to take the abuse seriously and less likely to intervene where online harassment did not also involve physical violence (Messinger, Birmingham, & DeKeseredy, 2018). With the rapid uptake of smartphones and camera-enabled devices in public life, there is likely to be a corresponding increase in bystanders witnessing technology-facilitated abuse. Yet, there is very little research that has comprehensively examined bystander perceptions and readiness to identify, speak out, or engage others in responding to this issue.

Conclusion

Digital technologies provide an important opportunity for social communication and networking with friends, families, and others. They are increasingly important to social and identity development (Valkenburg & Peter, 2011), as well as social and political participation, information exchange, education, and literacy (Livingstone, 2003). Although digital technologies provide a wealth of positive uses and influences, there is also a dark side, with perpetrators of sexual and domestic violence using the opportunities that such technologies provide to assert their power and control onto others.

The research to date indicates that there are diverse behaviors involving the use of technology in domestic and sexual violence contexts, including to set up an abusive act, to perpetrate the offense, and/or to cause multiple harms to victims. We argue that it is imperative to understand the changing nature of domestic and sexual violence in a digital era, where technologies are not merely *tools* of abuse, coercion, and harassment, but also often integral to the perpetuation of harm, suffering, and stigma to victims. Although technology itself plays an important role in preventing and responding to technology-facilitated domestic and sexual violence, it is vital that significant

resources are invested in primary prevention strategies that work to dismantle the structures, cultures, and practices of gender inequality that underpin all forms of violence against women and other minorities.

One key and ongoing challenge for research, law reform, and policy and practice in the field is that digital technologies are rapidly changing. What was prominent a decade or more ago, might no longer be relevant today. Earlier studies, for instance, of online harassment focused on receiving repeated email or instant messenger messages, and yet, a decade and a half later, attention is shifting to other means, such as the use of GPS tracking, drone technology, or the use of artificial intelligence to create realistic pornographic videos of unsuspecting victims. Indeed, digital tools allow for new types of harassment that were either not previously possible or take on a fundamentally different character in an online context. As danah boyd (2010) has outlined, certain characteristics of networked online spaces change the dynamics of interaction on these platforms. Moreover, the persistence and searchability of online environments mean that many forms of technology-facilitated abuse, in text, photographic, or video form, can remain online indefinitely, accessible, and connected with the victim. This, in turn, can mean that the harms, in some cases, may reoccur across a lifetime, even without additional or repeated acts by the original perpetrator of the harassment or abuse.

It is important that we investigate and understand the causes and consequences of these behaviors, while also seeking to address and prevent these harms from occurring in the first place. This involves, fundamentally, an appreciation of the ways in which our lives are (and have always been) deeply entangled with technology, and are inherently gendered, intersecting with other factors, such as age, race, disability, class, and sexuality.

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Notes

1. This refers to the tagline of video sharing platform YouTube, which is to “Broadcast Yourself!”
2. A note on terminology: We use the term “victim” throughout the article, although we recognize the problems with this term and that “victim-survivor” is preferred for encapsulating the lived experiences of people and their positionality regarding their experiences.

However, because the article uses a number of cojoined terms (such as "technology-facilitated domestic and sexual violence"), we have simplified the language by just using the former. We also use the terms "violence" and "abuse" interchangeably. Conventional definitions often treat "violence" as an exclusively physical act, whereas "abuse" is often used to capture nonphysical acts. The latter term may be a more comfortable label for those who experience emotional or other nonphysical violations as they may not feel that their experiences "count" as violence—which may explain underreporting and low help-seeking behaviors. This is reinforced by criminal justice responses to both domestic and sexual violence that frequently prioritize physical harms (see Powell & Henry, 2017, for a discussion). Many scholars and organizations use the term "violence" as an umbrella term for a wide range of physical and nonphysical violations. It is on this basis that we use "violence" and "abuse" interchangeably to capture a diversity of experiences, and to encourage victims to choose the language they are most comfortable with.

3. As indicated by Brown and Hegarty (2018), there are a range of similar terms that are used to describe digital abuse within romantic relationships, such as "electronic dating violence," "digital dating abuse," and "cyber dating abuse."
4. In this section, we define "domestic violence" to include sexual, physical, psychological, and/or financial abuse within a range of personal relationships. Domestic violence may be perpetrated by intimate partners, friends, housemates, carers, parents, guardians, children, and other family members. However, we focus on both intimate partner and dating abuse, while recognizing the importance of further attention on other forms of domestic violence, as well as other nonrelational forms of technology-facilitated abuse (e.g., by strangers).
5. This is consistent with other research on cyberbullying. For instance, studies show that cyberbullying victims are also more likely to be victims of offline bullying, such as abuse in the school yard (e.g., Hinduja & Patchin, 2008).
6. The prevalence of stalking more generally has been captured in national surveys. In the United States, nearly one in six women and one in 17 men have experienced stalking victimization in their lifetime (Smith, Zhang, Basile, Merrick, Wang, Kresnow, & Chen, 2018). Female victims were stalked most commonly by a current or former intimate partner, whereas men were primarily stalked by an intimate partner or acquaintance. The most common forms for all victims were repeatedly receiving unwanted telephone calls, voice, or text messages (Smith et al., 2018). According to the Australian Bureau of Statistics (2017), one in five Australian women, and one in 13 men have experienced stalking in their lifetime. For female victims, the stalker was usually a known male, whereas for male victims, the stalker was equally likely to be female as male.
7. Here, we use the broad term "sexual violence" to include physical acts such as rape and sexual assault, as well as noncontact offenses such as sexual harassment and coercion (Powell & Henry, 2017).
8. There has also been limited investigation into bystanders and image-based sexual abuse (IBSA)—whether people had seen or received nonconsensual nude or sexual images (e.g., Gordon-Messer, Bauermeister, Grodzinski, & Zimmerman, 2013). In a 2017 Australian national survey (OeSC, 2017), almost one fifth of respondents (n = 4,122) had been bystanders to IBSA because they received a nude or sexual image from someone else who knew that the person depicted in the image had not consented to it, or were not sure whether he or she had consented to it.
9. A number of studies have also examined online sexual harassment against children and adolescents (e.g., Mitchell, Wolak, & Finkelhor, 2008).

10. The authors defined online sexual-, gender-, and sexuality-based harassment as including any of the following behaviors: unwanted sexually explicit images, comments, emails, or text messages; repeated and/or unwanted sexual requests online or via email or text; gender-based offensive and/or degrading messages, comments, or other content; publicly posted online offensive sexual comments; sexuality- or sexual identity–based offensive or degrading messages, comments, or other content; threats of sexual assault via comments, emails, or text (Powell & Henry, 2017).
11. For instance, a national survey of more than 10,000 Australians found women more likely than men to experience sexual harassment. The rates were even higher among those who identified as nonbinary or a gender other than male or female, lesbian, gay, or bisexual (LGB); having a disability; as well as young people aged between 18 and 29 years (Australian Human Rights Commission, 2018).

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