

**CORRELATING TECH-ENABLED GENDER ABUSE AND INTIMATE  
PARTNER VIOLENCE IN THE WESTERN HEMISPHERE IN  
RELATION TO THE COVID-19 PANDEMIC**

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## ABSTRACT

This thesis examines the evolving role of consumer technology as a tool of control, abuse, and escape for both abusers and victims alike in instances of gender violence and abuse. In the COVID-19 lockdown era, consumer technology such as smartphones have proven themselves vital as a tool for keeping in contact with friends and family, as well as for interacting with services that deliver our consumables and necessities for daily life. This thesis will seek to understand how the usual patterns of gender violence were altered and exacerbated by the new lifestyle lockdowns imposed on the public, and what aspects of this evolution have remained prominent in cases of gender violence since lockdowns ended in most countries.

This then prompts the discussion of the double-edged sword of consumer technology in cases of gender violence. Consumer technology and access to it is more and more often used by abusers as tools to control, stalk, and psychologically harm their victims, while simultaneously being the tool through which victims can seek help from the authorities to escape their situation and control abuser access to their data and software in case of the theft of their personal devices. The role of technology in abuse also further exacerbates existing socioeconomic divides on the basis of digital literacy and access to consumer technology and the internet. Both of these factors reposition consumer technology as an aid to modern life, but also as a tool for women so long as the threat of gender violence exists.

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# INTRODUCTION

Consumer electronics have entered our lives with great effect in recent decades, and in this time have rapidly become a primary tool with which we function as consumers, workers, and even as siblings, children, parents, and partners. Our lives have become defined and stored in a microcosm of data that is managed and accessed through mobile smartphones, tablets, laptops, and a slew of online accounts with countless services. This includes how we present ourselves to the world with the advent of social media, as well as our private ideas and projects, work, financial lives, and even social interactions with those closest to us. In the context of our intimate relationships and partners, consumer electronics have become something of a third participant in themselves given how crucial they are to how we function as individuals. Through consumer electronics, we are able to plan our lives around our partners and manage a shared life with our partner's finances and logistics, music and film tastes, friend networks, or games. It also becomes a way through which an individual in a relationship, similarly to an individual who is single, manages their time away from a partner, and therefore can quickly result in personal devices becoming representative of the side of a partner that is kept private and may not be shared with a partner.

This thesis will discuss how, in this position as a tool for managing one's individuality in a relationship, consumer electronics is a tool for both perpetrating and escaping gender violence. This thesis will place emphasis on gender-based violence and the lopsided landscape disadvantageous to women in this regard. 75% of technology-enabled abuse cases are never reported by female victims, with only 14% of cases ever being reported to an agency with the authority or ability to intervene (The Economist Intelligence Unit 2023). In cases of technology-enabled abuse, consumer technology can become a target, holding prized personal data that can be used to blackmail, slander, or otherwise demonize the victim of abuse. I will emphasize how the role of consumer electronics in instances of

gender violence is perhaps one of the most gender-dependent aspects of consumer electronics as a factor in domestic abuse, as digital abuse more often than not involves an abusive male partner forcibly gaining access to a female victim's personal data through their phones, tablets or computers, and taking a number of actions with that data intended to harm the reputation of their victim or otherwise further restrict their access to the outside world.

In the United Kingdom, for example, women seeking support from charities such as Refuge, 72% of women reported that the abuse perpetrated against them had been carried out using consumer technology (Christie and Wright 2020). Given such high rates of abuse being carried out using consumer technology, this thesis will focus on the role of consumer electronics in this type of abuse before, during, and after the COVID-19 pandemic and how this has evolved or changed. Furthermore, the thesis will discuss how consumer technology can conversely be used to escape gender violence and abuse, and how socioeconomic status, educational background, and access to technology based on a variety of demographics can inform the rates of gender violence in different populations. I will also attempt to demonstrate how socioeconomic disparity can be a contributing factor to such a phenomenon and can also be exacerbated by its occurrence, such as in the case of socioeconomic disparity in the United States and access to technology as a factor in the digital literacy of victims.



## **1 - TECHNOLOGY-ENABLED ABUSE AND COVID-19**

Consumer electronics have not always occupied such a prominent position as a tool for communication and general support for individuals until the COVID-19 pandemic entrenched a number of new practices and factors in our lives. Specifically, the regularity of staying at home much more often as part of lockdown and social distancing measures, and as a consequence relying on technology for personal and work purposes became entrenched in the manner in which many operated across the world. As well as using online services more frequently than in the pre-COVID-19 era when people might have used fewer online services in favor of more traditional in-person services. The reinforced use of consumer electronics as a key tool for these aspects of family life has carried over from the lockdown era, just as the evolving nature of gender-based abuse has in certain aspects. These two evolutions of human habits have created a scenario where technology is now a priority for both abusers and abused alike, with abusers using technology as a method for control and abuse and victims using it to facilitate escape, document their abuse and seek assistance.

The pandemic brought a completely new societal situation to play which has impacted not only how we view domestic and sexual violence against women, but also how such abuse is carried out by intimate partners. These changes are evident on many levels. According to reports by EU states, during the COVID-19 lockdowns in 2020, rates of domestic violence as a whole in the European trading bloc doubled (Mahase 2020). While victims of domestic violence during COVID-19 had to grapple with similar psychological and physical issues as victims did prior to the pandemic, the nature of social isolation during the pandemic acted as a breeding ground for significantly more intense and frequent outbursts of violence.

Some forms of violence have moved from physical to virtual spaces, with reports of increased cyberstalking, bullying, and sexual harassment - all of which are exacerbated by increased reliance on consumer technology for daily functionality, communication, and work

during the lockdowns. As Harvey and Bucher explain, gender-based violence against women, including transgender women and girls, appeared to be more severe and long-lasting, possibly reflecting the severity of lockdowns and therefore the increased difficulty of physically escaping and ending abuse (Harvey Bucher 2021, 8). This reinforces that such violence is not purely driven by sexual frustration, but more specifically by gender, reinforcing the social expectations and views of the female gender being a critical driver of domestic violence against women. As discussed in Bucher's foreword, the issue is not simply a matter of sexual gratification, but more so a matter of women's vulnerability in the home being abused. As she highlights, helplines specialising in gender-based violence issues reported increases in reports during lockdown periods ranging from a 25% increase to as high as 111% increase (Harvey Bucher 2021, 3-4).

Though quarantine was necessary to prevent COVID-19 from spreading throughout society, it had serious psychological and social consequences. In their review "Gender-Based Violence During COVID-19 Pandemic", Mittal and Singh (2020) discuss that the act of placing people into lockdown can improve one aspect of their well-being while simultaneously degrading one's mental health. The issue of how and whether to use quarantine measures has been referred to as the "quarantine paradox". Not only has the continued use of on-and-off lockdowns resulted in degraded mental health across many demographics of society during the COVID-19 pandemic, but many countries around the world also saw an increase in cases of gender-based violence simultaneously. A study conducted by Barbisch et al. showed that for those who are subjected to quarantine, it is often an unpleasant experience; separation from loved ones, loss of freedom, uncertainty about disease status, and boredom can all have dramatic consequences on occasion (Barbisch, Koenig, and Shih 2015). In many countries, by "locking down" their population and

imposing strict quarantines and social distancing measures to minimize the rates of infection and protect the population, these dramatic consequences became much more widespread.

During lockdowns in 2020, many studies and surveys indicated that childcare and household work fell overwhelmingly on women (Del Boca et al. 2020). In an article by Sharifi, Larki, and Latifnejad Roudsari (2020) entitled “COVID-19 Outbreak as Threat of Violence against Women”, the authors discuss long-term quarantine and social and economical stressors caused by the COVID-19 pandemic are exacerbating conflicts in the household, leading to higher rates of more severe incidents of domestic violence. Specifically, the study demonstrated that the consumption of alcohol, a significant risk factor that influences the likeliness or severity of family abuse, was found to be relevant to the accumulation of traumatic experiences and loss of social support.

Especially when considering in historically patriarchal systems, the male-dominated context of public services such as police and other social services has often resulted in authorities implicitly pressuring women to return to abusive situations by insinuating that there is shame in leaving a man. These social precedents, particularly in strongly religious countries, have historically resulted in cases such as that of Franca Viola, who gained international attention for refusing to submit to a *matrimonio riparatore* (or marriage of rehabilitation). This is a practice in which a woman who has lost her virginity (even through rape or non-consensual sex) must marry the "taker" of their virginity in order to avoid being labelled a *donna svergognata* or "shameful woman"). Cullen (2016) argues how the practice, which would absolve the perpetrator of the crime of rape, carried social and legal significance at the time, placing women at the mercy of those who sought to commit an act of rape without fear of true consequence. That being said, Mills (1998) discusses how years of advocacy in many different contexts by women's organizations have resulted in a shift in the legal system's attitude toward and handling of domestic violence cases. This is crucial for

understanding this phenomenon in a contemporary context, in particular with regard to a female victim's ability to individually seek and utilize the tools of the legal system afforded to them by the law.

Furthermore, several other gender-based consequences of COVID-19 lockdowns became clear, as societal views about gender equality regressed even further to disproportionately unequal states. The same way abusers found more opportunities during lockdowns to control and abuse their victims, society allowed the pressure of dealing with a pandemic to overshadow known realities of the employment arena. According to a study conducted in 2020, researchers from the Institute for Fiscal Studies found that lockdowns have caused 47% more mothers than fathers to lose their jobs or have no choice but to quit as a result of lockdown measures, and on average women were furloughed 14% more than their male coworkers (UCL 2020). In the British context, Stewart (2020) discusses research from the University of Sussex which argues that society has, in certain ways, “regressed to a 1950s way of living, which will have serious consequences”, given the reintroduction of more restrictive gender roles.

Considering the unknown possibilities stemming in these forms of control and abuse, escaping the control of an abuser has become a much more difficult process, and thus the requirements on a societal and individual level have to be reconsidered. Not only do family members and friends have to consciously watch for warning signs in the limited interactions they may have with female friends, but now major global organizations such as the World Health Organization have begun urging victims to start creating “safety plans” in case violence should escalate (World Health Organization 2020). With the safety plans, the victims ideally should have standing plans with reliable family members or friends that can be put into motion at a moment's notice, even if the abuser attempts to cut off the victim's contact with the outside world altogether. This means the role of the third-party bystander or

witness would be overhauled significantly, and in certain contexts, it likely now rests on the shoulders of the bystander to make active attempts in checking for signs of abuse taking place against those they know. It is especially important to reconsider third-party roles such as these, as the reality of COVID-19 lockdowns means that the abuser's ability to restrict regular forms of social contact with the outside world is significantly heightened.

Consumer technology is a key aspect of safety plans, as a form of retaliation an abuser might attempt to gain access to stolen hardware in the hopes of misusing a victim's personal data. Companies such as Apple have recognized this need by enabling features such as a new domestic violence protocol, which would allow victims to deny abusers access to shared data and to reset their stolen devices in an emergency (Osborne 2022). Even then, as Osborne argues, these protocols are coming late, and still have a long way to go before abusers cannot viably use consumer technology as a tool for gender-based abuse.

## **1.1 - Consumer technology as a tool of controlling victims**

Though consumer technology is increasingly useful for daily life and our interaction with services, the hardware available to us is only as capable as the software which it can run. As in many cases, the advent of using software to stalk the hardware, and therefore the individual controlling that hardware, began with the advent of stalkerware, which the Australian Federal Police referred to as a 'Remote Access Trojan' (Australian Federal Police 2022). Such code is often a compilation of malicious code that embeds itself in the victim's devices, such as a mobile phone, by masquerading as a legitimate email or text message, which is also referred to as phishing, and upon opening a link, downloads the code discreetly onto the device where it was opened.

The correlation between stalkerware and the role of consumer technology as a tool of gender violence is important to understand what methods are used to perpetrate gender-based

abuse through technology. In a recent case in Australia, Australian Federal Police arrested a man for creating and selling stalkerware software and stated that of the 201 customers of the software, 14% were respondents to Domestic Violence Orders, with 11 of them being respondents to active orders at the time of purchase or had purchased the stalkerware within two years of an order being issued. This included a customer who was a registered sex offender in Australia (Australian Federal Police 2022). Conversely, in 2016, when the Trojan was being widely sold, there was an overall count of 264,028 domestic incidents in Australia. Even with a liberal assumption of at least one order issued per case, Australian news outlets reported that this would be around 1.1% of the Australian population at the time, as opposed to the 14% of customers of this product who were active respondents to domestic violence orders (Blumer 2016). The man charged with creating this software was fifteen years old at the time of creating and first selling the Remote Access Trojan, having sold it from 2013 to 2019 before authorities across the world took note of this becoming a common feature in cases where domestic abusers were trying to stalk women (Australian Federal Police 2022). The software could be used to access a computer in its entirety including all files and call keystrokes being recorded which meant that an abuser would be able to see and record all activity by their victim on the affected device.

Stalkerware being actively created and promoted in this period is important for understanding the context of technology in gender-based violence situations during and after the COVID-19 pandemic. During the pre-pandemic period when such stalkerware was available and being widely sold across the world in countries such as the United States, surveys conducted by the US Centers for Disease Control found that around 13.5% of American women were the victims of stalking by an intimate partner, as opposed to 5.2% of men (Centers for Disease Control and Prevention 2016). This data is crucial to any theoretical approaches to resolving the issue of technology-enabled abuse, as it shows the gendered

disproportion of how such stalking is carried out, and therefore how increasingly crucial technology has become in cases of gender-based intimate partner abuse as such stalkerware became available.

Stalking and the use of stalkerware by controlling partners can also evolve into a form of psychological manipulation among intimate partners that makes technological advances in encryption and security redundant: physical access to devices and control. Though there may be many tools such as new forms of facial recognition, fingerprint, and two-factor authentication, abusers can often pressure their victims to divulge information, such as passwords, that might have otherwise protected their data from an abuser, as has been discussed in technology media covering the issue (Nurse and Sugiura 2022). Given that situations during and since COVID-19 have placed abusers in constant proximity to their victims, the lack of physical protection from abusers forcing victims to divulge their passwords and unwillingly authenticate access to their personal information raises the question of tools that can be implemented for retrospective action in cases where a victim later escapes and needs to engage in forms of digital damage control to ensure that people victims may have been intimate with do not use a victim's data for purposes such as revenge pornography or blackmail. However, the complications associated with how a male abuser may react to such a situation have also been further complicated by the side effects of new sexual dynamics caused by lockdowns.

Pornography in the domain of an intimate relationship both before, during, and after the COVID-19 lockdowns represents a significant issue, both in terms of motivation for abuse and as a tool for blackmail, and therefore controlling the victim's willingness to escape situations including intimate partner violence. A study by Jongsma and Timmons Fritz (2021) conducted during the COVID-19 pandemic has shown that in different-sex relationships, the risk of domestic violence against women was significantly increased due to high rates of

pornography use among men as opposed to women, therefore normalising acts of sexual violence while simultaneously normalizing the subconscious objectification of women in a sexual context. In particular, while pornography may be something people use to achieve gratification, the stigma that exists around its use in wider society today still means that the use of such materials for sexual gratification is often secretive, and the secrecy can be stress-inducing. Research carried out in the initial periods of pandemic lockdowns revealed that many in treatment for problematic pornography use, especially during the COVID-19 lockdowns, reported that their use of pornography was limited to when their partner was asleep or not present, and having to hide it can be stressful (Mestre-Bach, Blycker, and Potenza 2020). In their research is also highlighted that increased proximity from being together constantly can put strains on casual sexual encounters, which may happen less frequently given the constant proximity, and in turn create sexual frustration that partners seek to address through pornography usage.

With lockdowns necessitating that partners be confined to their homes together frequently, the stress of hiding such activities increases and can create a vicious cycle of stress and gratification. Thus, the concern is when a breaking point is reached, those with pornography addiction exacerbated by home confinement allow their pornographic experiences and fantasies to merge with reality to the detriment of intimate partners. Mestre-Bach, Blycker, and Potenza (2020) also highlighted the use of search terms such as “Coronavirus” and “Covid” as search terms on Pornhub, a major porn streaming website, indicating the idea of lockdown and being at home for long periods with a partner was viewed as increasingly sexual. In short, many pornography viewers had begun to fetishize, to a certain extent, the very context of COVID-19 lockdowns.

As this increased fetishization of the lockdowns continued and gender violence’s perpetration through consumer technology increased, it now became more and more critical



for women to seek more effective, non-traditional methods of escaping violence. Given the lockdown's restrictive nature necessitating increased use of consumer technology to carry out daily tasks and interact with our peers and family members, consumer technology quickly becomes a suitable tool for escaping gender violence. However well-positioned such technology may be for escaping gender violence, one important question to consider, given the rapid increase in connection to the internet the twenty-first century has seen, is whether or not such technology can truly act as much in the victim's favour as it may do for the abuser.

## **1.2 - Consumer technology as a tool of escaping gender violence**

Consumer technology has proved itself as a tool for abuse over the past decade and throughout the COVID-19 lockdowns. In spite of this, we must consider that consumer technology can similarly act in the interest of the victim. As a tool for escaping forced isolation, consumer technology enables communication with family, friends, or the authorities who might intervene in cases of gender abuse.

The concept of consumer technology as a device for damage control in cases of gender abuse is relatively novel. Societal attitudes towards technology-enabled gender abuse are still relatively uninformed when it comes to recognizing the severity and scale of technology-enabled abuse. Technological advancements in the last few years alone have drastically changed this landscape, especially with regards to hardware, and have made technology powerful and accurate enough to enable live tracking, personal data theft, and even identity impersonation. Major figures in the field such as prominent technology security advisor Eva Galperin have stated that in recent years technology has become so capable as a tool for interacting and controlling the human behavior of others that according to the National Network to End Domestic Violence, in the United States 97% of the existing

domestic violence support programmes reported that their victims were stalked or otherwise controlled with technology of some sort by their abusers (Galperin 2022a).

This is not to say, however, that there are no shifts in how wider societal actors, such as governments and legislative bodies, react to and recognize the threat of tech-enabled gender abuse. For example, Galperin cites the 2022 case of Maryland becoming one of the first states to raise awareness of this phenomenon among its law enforcement agencies by passing bill SB-134 (Galperin 2022b). SB-134 requires that all Maryland law enforcement officers learn, as part of basic training, how to recognize the signs of someone carrying out electronic surveillance of another person without their consent, and how to recognize and combat technologies that may be used in that regard (Legiscan 2022).

The increased emphasis on consumer technology as a factor in relationships and as a tool for abuse has also prompted major technology manufacturers such as Apple to bolster their security features, such as Apple's early 2022 announcement of a new feature called "lockdown mode". Lockdown mode allows users of their devices and ecosystem to enable a mode on their iPhones that makes installing and using stalkerware or spyware almost impossible for abusers seeking to break into their victim's devices with trojan horse-style malware (Apple Newsroom 2022). Given this, it is important that there is a symbiotic relationship between public legislation and technology advancement by industry to help combat technology-enabled gender-based violence.

This is equally true in the setting of how domestic violence disputes are handled in the eyes of the law. Where most traditional legal systems require differing degrees of victim and abuser participation in in-person legal processes, many victims may often feel intimidated or anxious in the presence of their abusers. In certain contexts, research has shown that the forced move of these legal processes to an online and largely digital format has provided a

twofold effect that can allow for more efficient and emotionally secure handling of domestic violence cases in the post-COVID-19 world.

Cuomo and Dolci (2022) explain the case with Seattle, where legislation was introduced to keep many aspects of the digitised process of handling domestic violence cases on the basis of both providing victims with a sense of security by omitting requirements for appearance in in-person settings which could contribute to social stigma or mean facing an abuser. Simultaneously resulting in a higher rate (96%) of responses to domestic violence orders in the Seattle court system, often due to a lack of public humiliation associated with the in-person delivering of court-related documents, such as summons or court orders. Bearing in mind earlier references to effectively utilising police services with regards to this matter, it is clear through cases such as Seattle that legislation is key to creating a more effective police response.

In the context of the Seattle court system that Cuomo and Dolci discuss from the point of ensuring victim participation in a safe manner, confirmed receipt of these documents by an alleged abuser through digital means not only means less court hearings are necessary to confirm the facts of the case, but protect officers from in-person altercations when delivering court documents. A streamlined system where deliveries can be handled digitally, rather than requiring officers to travel to deliver documents also allows them to handle more cases, meaning an overall increase in police resource availability for domestic violence cases. The notable overall outcome of such a procedure is seeing an increasing potential for better processing of cases where victims are at risk of continued abuse.

Furthermore, the use of technology not only resulted in the lessening of more traditional intimidation tactics used by abusers in in-person settings but also lends victims a higher sense of agency and confidence, as the use of a digital system gives victims the ability to have more control over their interaction with the case by virtue of being physically

separate from an abuser. Similarly, such a system also ensures that intimidation of victims in a court setting is much less likely to take place, as there are fewer opportunities for abusers to employ subtle intimidation techniques that require relatively close physical contact.

## **2 - TECHNOLOGY IN THE U.S.: SOCIOECONOMIC DISPARITY AND DIGITAL LITERACY**

The ever-expanding world of technology and the general pace of technological innovation has, as discussed in previous sections, created a significantly more complex landscape for the world of relationships where gender-based violence is taking place. As technology has become more capable in permitting victims to plan and execute an escape from abuse while simultaneously doing as much as possible to guarantee the safety of their data, other technologies have made it even easier to stalk, manipulate and obtain the personal data of victims for malicious uses. In the case of the United States, companies, local, state and federal authorities, alongside private citizens have had to grapple with the dangers of technology as a weapon. When we take into account the racial and socioeconomic disparity gaps between different demographics, we see that many Americans are left at an inherent disadvantage through the denial of adequate opportunities to develop digital literacy. The United States acts as a useful case to examine for understanding the role of technology in gender-based abuse given the relatively diverse proliferation of technology access across different demographics. These cases show how women of many different socio-economic and racial backgrounds are subjected to tech-enabled abuse, and to what degree they are able to handle the issue in a variety of ways demonstrative of varying levels of digital literacy and financial capability.

Though we view consumer technologies as individual actors, the nature of major technology manufacturers as maintainers of largely closed ecosystems raises the question of the role of major manufacturers in allowing gender-based abuse to be perpetrated. In 2022, this issue came to the forefront with the actions of major technology companies such as Apple Inc. As mentioned previously, Apple played a major role in sparking debate over how major companies can help fight tech-based abuse, most notably with their announcement of

lockdown mode, which catered specifically to survivors and victims of gender-based abuse and violence. However, experts in the field such as Galperin (2022b) cite examples such as Apple's hardware, which took a different turn with the release of the Airtag. The Airtag is one of many products, including mobile phones, headphones, and even smart wallets that have been reinvented with integrated tracking features designed to combat device loss or theft. The major public outcry that ensued made an important point that arguably has not yet been reconciled. Should such devices exist given how easily they can act as accessible technologies for the purpose of abusers physically stalking or tracking potential victims?

Airtags are not alone, as companies like Tile focus specifically on tracking devices as a tool for convenience. That being said, however, among companies producing this type of tracking technology it is important to distinguish companies that recognize and tackle misuse of their products explicitly, and those that have remained passive. For example, some American companies such as Apple have not created specific tools that aim to mitigate stalking with their devices, and since the Airtag release have found themselves to be answering class-action lawsuits for Airtag stalking victims. On the other hand, Galperin (2022b) highlights companies such as Tile have, which created applications that allow people to scan and find Tile devices that do not belong to them that may be placed in their belongings for the purposes of stalking.

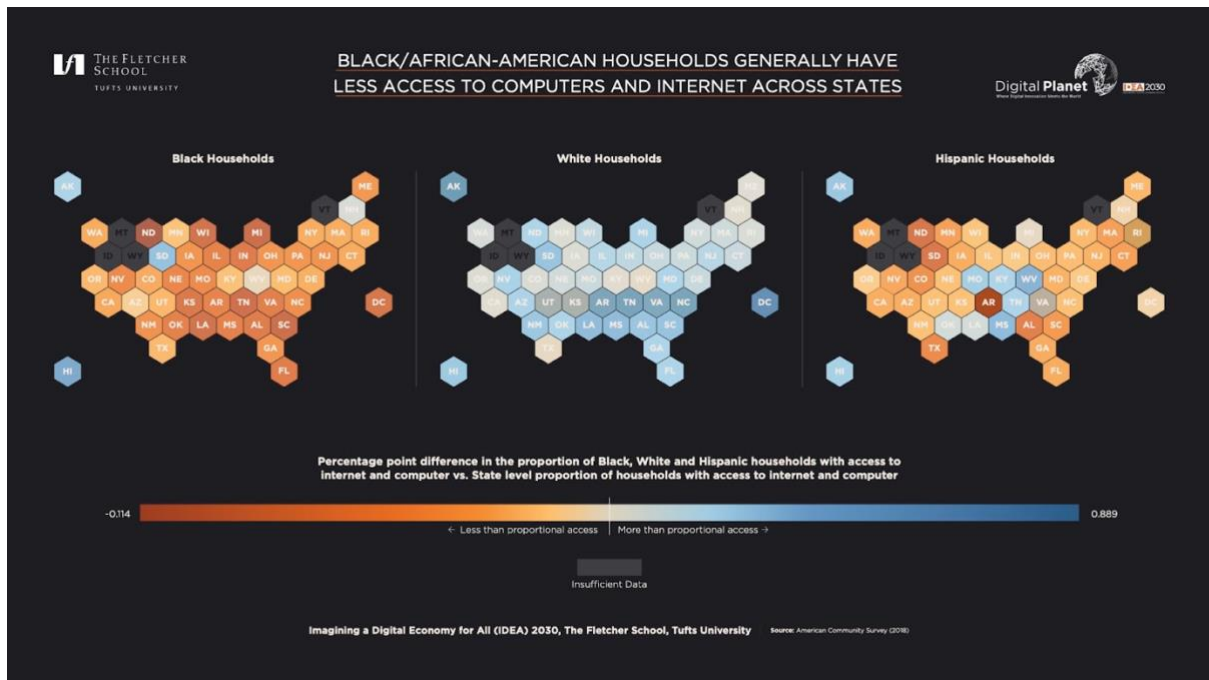


Figure 1: Access to computers and internet connection by race and ethnicity in the United States (The Fletcher School at Tufts University, n.d.)

In reconciling this new position that consumer technology holds in our lives, it is important to realize that women belonging to ethnic and social minorities statistically have lower levels of access to consumer technology in the United States and that this can influence rates of gender-based abuse among these demographics. In the United States, people of African American or mixed race heritage saw an average of 11% of the population experiencing domestic violence or victimization of some sort on the basis of their race, with an average of 93-94% of these people being women (Brignone and Gomez 2022). By the same token, we can see in figure 1 that there is a major disproportion in access to technology for minorities such as African Americans, leaving women in ethnic minorities in a vulnerable position when attaining consumer technology that could be used to escape situations of domestic, gender-based violence, especially difficult and unlikely. In 2017, rates of online abuse demonstrated that racial minorities such as those of Hispanic or African American

background reported being targeted more so than White Americans did (Maeve Duggan 2017).

This highlights that while technology may be a tool of both perpetrating and escaping abuse, the potential for lower rates of technology-based abuse does exist among ethnic minorities. A consequence of this is that as technology-based abuse becomes more prevalent and innovation continues, women who are members of ethnic minorities may not have enough experience or background knowledge pertaining to consumer technology to recognize when they are receiving abuse through technological means, and what the proper method of escape and damage control is.

The issue goes beyond the realm of what people can do to report and escape tech-enabled abuse and take form in highly-stigmatized methods, such as cyberbullying, where victims are often pressured not to speak up about their experience for fear of public humiliation or abuse on social media. As recently as 2021, studies demonstrated that cyberbullying victims generally tend to be female more often than men by a relatively slim margin of 23.7% of women being victims of cyberbullying as opposed to 21.9% of men (Hinduja 2021). While this slim margin does not necessarily highlight an issue insofar as cyberbullying being heavily biased towards the abuse of women as opposed to men, Hinduja points out that during synthesization of existing research over the perpetration of cyberbullying in the United States, men were more likely to perpetrate acts of cyberbullying than women. When contrasted with a higher rate of female victims in the case of cyberbullying would highlight that in the United States, the most common form of cyberbullying happens to be perpetrated by men, with the most likely targets being women, statistically.

Furthermore, gender plays an issue in access to opportunity, as statistics demonstrated that “there is a consistent lack of digital equity across the inclusion pathway” (Reder and



Soroui 2015, 21). In particular, further investigation showed that members of ethnic minorities, and noticeably high numbers of foreign-born women residing in the United States are prone to much lower digital proficiency ratings on average, which is a key issue when, as Reader and Soroui point out, there is a distinct link between digital literacy and social inclusion. Given the issue of equal access to work opportunities being a consistent barrier to female advancement, the crucial need for increased female digital literacy in the United States is not just pressing, but an inherently racialised issue. This results in women being unfairly disadvantaged for work as well, as opportunities to advance can be constricted by one's lack of digital literacy.

### 3 - CONSIDERATIONS FOR FUTURE RESEARCH

Bearing in mind the issues we see faced by women in countries such as the United States when it comes to the disparity of access to technology and sufficient digital literacy resources, we must consider the present and what methods of abuse are being used, as well as what is available to victims for escape in the coming future. It is important to recognise the extent to which this issue has become gendered, and despite there being options for women to escape technology-enabled abuse, women across a variety of global demographics are unable to access such systems for a host of social and financial reasons.

Ensuring that women are digitally literate if only for the sake of increasing the likelihood that they can use technology to escape abuse is increasingly vital, as statistics from the United Nations show that since 2019, the gap between women and men connected to the internet has increased to 20 million. Similarly, data since 2019 found that women are 12% less likely to own a mobile device, which is a point of concern in defeating technology-enabled abuse (Secretary General of the United Nations 2022). In addition, according to Slakoff, Aujla, and PenzeyMoog (2020), research helped formulate several vital steps that women can use to covertly use technology to their benefit in cases of active abuse, regardless of the situation's contextual specifics:

- Use incognito mode to prevent searches and cookies related to visiting certain websites being stored,
- Using apps such as OneLove or Circle 6, which allows victims and their families to see a checklist of what constitutes tech-enabled abuse and send quick pre-written messages to select people if abuse is happening in the present and requires immediate intervention, respectively,

- Use in-game messaging features to communicate covertly with family and friends so that the chance of messages being seen by an abuser is relatively low,
- Using web-based products that require no local apps such as Gruevo, which allows victims to have video chats via browser, arousing less suspicion than a video chat app.

We are, therefore, left with three predominant questions to consider for future research. Firstly, is it the responsibility of manufacturers to ensure that public and law enforcement agencies can appropriately tackle the misuse of their technology for abuse? Secondly, can the relationship between law enforcement agencies and consumer technology manufacturers succeed in combating gender-based abuse without active legislation that enables both to enforce the law in this specific context? And thirdly, can consumer technology itself adequately address the need to prevent its misuse in cases of gender-based abuse?

Though these questions do not necessarily have an answer at this point in time given the relatively new nature of technology-enabled abuse, these questions will serve well as guiding principles for future research into the nature of consumer technology as an actor in intimate relationships. In order to effectively combat this phenomenon as a whole, increasing public digital literacy must become a priority, especially in countries that use the internet as a major part of their infrastructure, such as in North America or Europe.

In the case of digital literacy, studies have found that American adults are also trailing the world average. Similarly, American adults struggle to understand the concept of cyber-security measures such as two-factor authentication, with a Pew Research Center study showing this was as low as 28% of US adults (Vogels and Anderson 2019). The study also showed that only 24% of American adults are aware that private or incognito browsing only

hides history from other users of the same device, and around half of all US adults are unsure what incognito mode even is (Vogels and Anderson 2019). A lack of digital awareness about such functions can be a threat to the safety of women in abusive situations by virtue of unfamiliarity with such tools. Referring to the framework for using technology to escape abuse discussed above, anyone following that checklist to look up services online without alerting an abusive partner would have to not only understand the implications of incognito mode, but how this affects website cookies and web-provider histories. Such histories can be accessed separately to the device itself should the abuser be wary of the victim's overall, and not device-specific internet usage. By ensuring that victims have access to information and software which can help them avoid technological complications that could compromise an escape from abuse, there is potential to mitigate the issues posed by a lack of digital literacy among victims.

## CONCLUSION

In short, this thesis shows that consumer technology has become such a significant tool in our personal lives that it has entered into the realm of intimate relationships between people and proven itself to be the keeper of our personal lives, whether that be manifest through private communications with others, photographs and other media, or data related to our work or educational lives and therefore the interactions and work one may do with others. Accordingly, not only do we make technology conduits and extensions of ourselves, but by doing so we make technology a tool for those who would seek to control someone they have been intimate with through blackmail or other malicious uses of data. Consumer technology also represents our ability to communicate with the outside world which is a key vector of control for abusers targeting their victims by seeking to limit the victim's ability to make their voice heard in their larger social circle. At the same time, the same technology provides the means for a victim to secretly engage their social circle and the authorities to escape an abuser.

As Segrave and Vitis make clear in their conclusions written in *Gender, Technology and Violence*, we “cannot view technology simply as a ‘weapon’ nor as merely a threat to be controlled” (Segrave and Vitis 2017, 123). Their point is crucial for ensuring that technology continues to be a tool for women's survival and liberation in situations of domestic violence. Technology is increasingly weaponized within modern gender discourse and domestic violence. Most importantly, however, is understanding just how disproportionately women find themselves the victim of such abuse across many racial, social, and economic demographics. By framing the problem of technology-enabled abuse through the lens of gender violence and the female experience of victimization in domestic settings, we can help create better methods of escape and damage control from a technological standpoint that can help victims escape abusive situations without fear of their digital data or physical wellbeing

being held hostage by an abuser remotely through technology. It is because of this inherently gendered aspect of technology-enabled abuse in the post-COVID-19 era that understanding the issue through the female experience may well be the key to understanding how best to solve the issue of tech-enabled gender violence.

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