

## editorial

# Digital technologies and gender-based violence – mechanisms for oppression, activism and recovery

Professor Christine Barter, [cabarter@uclan.ac.uk](mailto:cabarter@uclan.ac.uk)  
University of Central Lancashire, UK

Dr Sanna Koulu, [sanna.koulu@stm.fi](mailto:sanna.koulu@stm.fi)  
The Ministry of Social Affairs and Health, Finland

To cite this article: Barter, C. and Koulu, S. (2021) Special issue: Digital technologies and gender-based violence – mechanisms for oppression, activism and recovery, *Journal of Gender-Based Violence*, vol 5, no 3, 367–375, DOI: 10.1332/239868021X16315286472556

The links between gender-based violence (GBV) and technology are nothing new. The 1938 play *Gas Light* presented a vivid illustration of a Victorian husband's technologically-facilitated abuse through his manipulation of household gaslights, to flicker and dim at unexpected times, with the aim of making his wife doubt her own sanity. The term 'gaslighting' is now widely used to refer to psychological abuse where the abuser uses false or distorted information to make their victim doubt their own memories and judgements. In comparison, it is only relatively recently that the complexities of GBV and digital forms of technologies as mechanisms for oppression, activism and recovery have been recognised.

In 2019 over 8,000 researchers, practitioners and policymakers from 41 countries gathered in Oslo, Norway, for the third *European Conference on Domestic Violence* (ECDV). The ECDV raises awareness of domestic violence and wider forms of GBV across disciplinary and topic boundaries, and the presentations in 2019 addressed a diverse range of issues from analyses of case law to GBV help seeking in migration contexts, to the impact of adverse childhood experiences on re-victimisation. An emerging theme was the need to understand how digital technology can be used by perpetrators to exert control over their victims. However, debates also recognised digital technology as a powerful tool for GBV global resistance, providing a platform for survivor-led transformative campaigns as well as a mechanism to provide support for survivors. These debates were the catalyst for this special issue on digital technologies and GBV.

In the two years since the 2019 ECDV conference, we have seen the world change in unprecedented ways. Millions of people across the world have faced isolation, loneliness and fear due to the COVID-19 pandemic and restrictions on everyday life. For GBV victims, this isolation and fear has been intensified by perpetrators' use

of abuse, including through digital technologies, to further increase their control and surveillance, inadvertently aided by stay-at-home directives (Sharlini and Tushar, 2020; World Health Organization, 2020; Gregory et al, 2021). At the same time national lockdowns have made it even harder for victims and survivors of GBV to escape and receive support (Davidge, 2020; World Health Organization, 2020), with black and minoritised women and girls experiencing the disproportionate effects of the dual pandemics – COVID-19 alongside GBV (Imkaan, 2020). However, the unparalleled scale of change has also accelerated progress on developing and implementing innovative service responses to support GBV survivors and their families (Barter et al, 2020).

## Digital technology and GBV

GBV, including domestic abuse, interconnects with digital technology in complicated ways. In this special issue we examine digital technology as an emerging form of technology and infrastructure that allows for new forms of interaction (Lessig, 1999; Star, 1999). We also note that there are gendered aspects to the use of any technology. Digital technology, even as it connects to new forms of masculinity, is often conceptualized as a masculine domain requiring ‘rational’ thought and technical expertise (Cockburn, 1985). While the issues around gender and technology are complex and subject to social and societal change, this intersection raises concerns about digital technologies being co-opted as a tool for GBV (Bowles, 2018).

One of the first theorists to address the intersection of feminism and digital technology was the sociologist Susan Leigh Star (1999). Star was influenced by Millett’s seminal work on sexual politics (Millett, 1970) and sought to explore how gender, digital technology and infrastructure came together to transform social life. Her interest in the connection between digital technology and lived experience led her to question how digital technology has an impact on interpersonal relationships and communication in indeterminate ways, both for good and bad.

As highlighted by Star, digital technologies and GBV interconnect at the interpersonal and structural level; GBV on the individual level reflects and reinforces structural dynamics such as sexism, racism and cisnormativity (Montesanti and Thurston, 2015). Structural violence, as conceptualized by the conflict theorist Johan Galtung, is violence where there ‘may not be any person who directly harms another person in the structure. The violence is built into the structure and shows up as unequal power and consequently as unequal life chances’ (Galtung, 1969; 171). As digital technologies and innovative forms of media create new domains of potential, the issues of structural violence become crucial.

Digital technology both enables and impacts on our private and public social interactions: from our personal and intimate relationships with partners, family, friends, peers, colleagues through to our communication and interface with social institutions and state infrastructure, often in ways many of us do not completely comprehend (Turkle, 2011). As Noortje Marres (2017), whose work investigates the intersection of innovation, public life and everyday environments, argued: ‘Digital plays a fundamental role in a broad range of societal developments – from the transformation of the welfare state to the way elections are won, and how we experience the self’ (p 1). Feminists, intersectional theorists and related scholars, survivors and activists have been at the forefront of seeking to understand, challenge and respond to the overlapping

intersection of digital technology and GBV, in all its facades, creating compounding and disparate experiences of discrimination (Crenshaw, 1989).

Today, digital technology is used to facilitate forms of GBV which, even a decade ago, seemed unlikely (Woodlock et al, 2019; Leitão, 2021). As new forms of technology emerge and become part of the structures of everyday life, they also offer perpetrators ever-growing ways to stalk, isolate and control their victims (Barter et al, 2017; Snook et al, 2017; Woodlock et al, 2019). Women's refuges increasingly report perpetrators hiding GPS devices in victims' computers, cars and children's toys, rendering these previously protected physical spaces vulnerable (Wordsworth, 2015). Smart-home technology is used by perpetrators to remotely control women's physical environment through internet-connected locks, speakers, thermostats and lights; creating new pattern of behaviour to harasses, monitor, bewilder and ultimately scare (Bowles, 2018).

Woodlock (2017) concludes, technology creates a sense of the perpetrators' omnipresence to isolate, punish and humiliate GBV victims. This omnipresence means that survivors believe that they are being observed even when they are not, reminiscent of Bentham's panopticon; a disciplinary concept applied to prisons where a single guard could monitor prisoners without them knowing if they are actually under observation. This constant surveillance, or the possibility of constant surveillance, creates (self) regulation in even the smallest details of everyday life (Foucault, 1995). Zuboff (2019) highlighted what she calls digital technological 'surveillance capitalism', constituting 'information panopticon'; algorithms which constantly monitor all aspects of our online behaviours. Havard and Lefevre (2020), similarly applied a Foucauldian post-structural explanation of power alongside traditional understandings of patriarchy to technological GBV, arguing perpetrators' omnipresence has fundamentally shifted the intimate power dynamics whereby survivors constantly self-regulate and change their behaviour in ways which they believe the abuser will accept. Although scholarship in this area has increased, as Harris argued in her ECDV article 'Domestic violence and spacelessness: technology-facilitated violence across landscapes' (3 September 2019), we still 'lack consideration as to how place and space – the location and community of a victim/survivor and criminal justice agency – will shape experiences of and responses to "spaceless" violence'.

Alongside direct forms of technological GBV we have seen the rise in misogynistic, racist and discriminatory online platforms and communities, such as the #Gamergate movement, and algorithms which reward content that has been most clicked and shared leading to the escalation of stereotypical and derogatory views (Marres, 2017; Munn, 2020). In this participatory and generally unregulated online culture marginalised and stigmatised groups are especially vulnerable to harassment, hate speech and targeting by online trolls. United Nations (2015) in their wake-up call reported that globally three-quarters of women online have been exposed to some form of cyber violence, with 9 million women in 28 European countries being victimised. We have also seen how state apparatus have been used to censor women's digital self-expression, for example the Egyptian public prosecutors aggressive targeting and prosecution of female TikTok influencers for violating public morals while Egyptian men routinely receive impunity for sexual violence (Begum, 2021).

At the same time digital technologies provide creative opportunities for social activism, resistance and recovery. Digital environments enable new forms of spatiality to emerge and provide opportunity for geographically distant and diverse communities to connect. This opportunity to build communities around shared

interests and experiences can support survivors by providing authentic spaces where they can feel validated and heard through an assembly of voice. Global campaigns including #metoo, #timesup and #Delhibraveheart, viral survivor statements such as 'Everyone's Welcome' and the 'The List', as well as crowd-funded justice campaigns for GBV survivors have all shown the digital environment's potential for democratising access to voice and challenging exclusion. Digital activism is thriving, and some argue represents an integral part of fourth-wave feminism (Jain, 2020), creating solidarity that cuts across national divisions. However, and as Jain also warns, 'Cyberfeminism cannot be viewed as the panacea for a universal claim of gender equality' (21 July 2020) as digital inequalities 'creates a schism in the idea of a "universal" cyberfeminist movement'. This underlines how online GBV activism needs to be closely connected with on-ground resistance movements to make it available for women and girls who lack digital access (Desai, 2009).

Digital technologies are also used to provide services for survivors of trauma (Gloor and Meier, 2020). While such interventions could be criticised for being faceless and distant, for some they provide an accessible means of support that is not dependent on childcare and work commitments. Nevertheless, as we have argued, access to digital technology is not evenly distributed and can depend on circumstances such as rurality and access to digital infrastructure including connectivity and broadband speeds, access to digital devices, disability and digital literacy. The issues of access can thus exacerbate the power relations that are inherent in many forms of GBV.

The rise of digital technologies in both facilitating and resisting violence presents a challenge for law and legal systems. Cyberbullying and digital stalking recast the geographical, spatial and temporal nature of abuse leading to issues of jurisdiction as well as thorny legal questions. The pervasive impact and diffuse qualities of digital technology can also be challenging for legal institutions, as law traditionally relies on built-in assumptions about criminal acts being limited in time and space as well as attributable to individual persons; applying legal thinking to digital technologies is inevitably linked to the values and design choices of the technological innovators (Koulu, 2021). Digital technologies also force law to question its understandings of privacy and the private sphere, as shown by the calls to consider so-called smart home appliances and home surveillance equipment as potential tools of stalking. The challenge lies in piecing together very different systems of thinking to provide access to justice and legal safeguards as well as access to the potential of digital environments.

The articles in this special issue comment on this shifting GBV digital landscape from a number of different perspectives. They bridge both interpersonal and structural violence as they reflect survivor experiences and discuss service delivery and examine the societal underpinnings of GBV and the role of resistance.

Dragiewicz (2021) and colleagues explore the ascendancy of digital forms of coercive control in their article 'Digital media and domestic violence in Australia: essential contexts'. They present four key contexts for understanding the role of technology facilitated domestic violence: the coercive and controlling relationship; separation abuse; co-parenting; and safety work. Survivors strategically used digital technology as part of ongoing safety work where they actively assessed the risks and benefits of their choices and sometimes resigned themselves to technologically facilitated coercive control. Building on Mirza's (2018) theorisation of 'compliant agency' the authors found that expressions of compliant agency were particularly evident for mothers forced to co-parent with abusers.

The issue of technological abuse by separated fathers/father figures is also central to [Nikupeteri et al's article \(2021\)](#) 'Coercive control and technology-facilitated parental stalking in children's and young people's lives'. The authors examine how technology-facilitated parental stalking by separated fathers or father-figures manifests in children's and young people's everyday lives, forcing them to live in acute fear and insecurity. Analysis of court decisions identified that children and young people were affected by three manifestations of technology-facilitated parental stalking: (1) Threats of violence and death; (2) Intrusive and obsessive fatherhood; and (3) Disparaging and insulting motherhood/womanhood. The article concludes that children's exposure to and vulnerability to technology-facilitated parental stalking must be more widely recognised.

Our first practice contribution by [Tanczer et al \(2021\)](#) "'I feel like we're really behind the game": perspectives of the United Kingdom's intimate partner violence support sector on the rise of technology-facilitated abuse', explores both the breadth of technology-facilitated abuse, especially with regard to the interdependent ecosystem of the 'Internet of Things' alongside the need for enhanced risk assessment practices, training and support to better respond to this form of GBV. The need for better technical awareness and expertise is stressed with some practitioners expressing 'the profound worry' that the sector is falling behind as technology develops.

Another emerging technological response to GBV are personal safety applications (PSAs), now being rolled out for use with DVA survivors. In our second practice piece 'Generic personal safety applications and DVA: just another way of responsabilising victims or a tool for empowerment? A practitioner lens', [Turgoose and Mackie \(2021\)](#) critically reflect on the use of these technological applications. Although they found some support for their use, substantial challenges were also identified including: applications reflecting an oversimplified knowledge of DVA mechanics; security and privacy issues; male centric design practices; and a failure to address intersectional dynamics of ownership and usability. The authors warn these applications may 'contribute to the commodification of women's safety' and ultimately place responsibility on women to keep safe rather than target the behaviour of the abuser.

Building on the innovative use of technology as a response to DVA, [Gendera et al's \(2021\)](#) paper 'The significance of technology as both a resource in enhancing safety, and a means of perpetrating violence' reports on findings from an evaluation of a pilot program in Queensland, Australia designed to support the use technology as a safety measure, and to respond to technology-facilitated abuse. The initiative had two components: the use of technology such as personal safety alarms and security cameras to enhance victims 'safety and identifying and responding to technology-facilitated abuse. It reports on the benefits of the inclusion of innovative uses of technology as part of a holistic, flexible service response to the needs of victims although the limited uptake indicates that support workers and the domestic violence sector would benefit from capacity building in this area.

Refuges or shelters are cornerstones in providing safety and support for survivors and children. In their article 'Teenagers' access to digital technologies and refuge life: balancing safety, risk and protectionism', [Bracewell et al \(2021\)](#) explore teenagers' experience of living in refuges. Limited access to digital and online technology emerged as a central theme which impacted on their education, support networks and

leisure. Digital restrictions were attributed to safety concerns and resource shortfalls, underpinned by protectionist attitudes towards teenagers. They warn that the digital secrecy associated with refuge locations may exacerbate the isolation that some teenagers experience during their stay and make them vulnerable to future targeting by perpetrators. The authors argue for a more considered approach to balancing risk and protectionism with the need to provide digital opportunities and access.

The discourse of young people and risk is also explored in [Zauner's article \(2021\)](#) 'The continuum of symbolic violence: how sexting education neglects image-based abuse, dismisses perpetrators' responsibility, and violates rights to sexual autonomy'. Critically assessing UK sexting educational campaigns Zauner argues that campaigns (re)produce symbolic violence through victim blaming, legitimise heteronormative discourses, deny image-based sexual violation, excuse perpetrators' behaviour and holds survivors accountable when images are shared without their consent. Inevitably such campaigns fail to position image-based sexual violence as a form of GBV while simultaneously denying young people's rights to explore their sexuality in a safe environment.

Perpetrator programmes are a crucial component of GBV prevention, however, due to the challenges of in-person delivery alongside current COVID-19 restrictions, interest in remote delivery of such programmes has proliferated. This makes [Bellini and Westmarland's article \(2021\)](#), 'Problem solved is a problem created: the opportunities and challenges associated with an online domestic violence perpetrator programme' even more pertinent. The researchers found that although the online format solved some long-standing delivery barriers, new problems arose including access to the necessary broadband speeds, technical hardware, learning new facilitation techniques to create a welcoming yet critical space online, availability of private spaces to participate and the need to ensure coordinated support for survivors. In conclusion, the authors 'caution against the allure of uncritically positioning online programmes as the solution to gaps in service provision'.

Our last two articles build on the previous contributions by exploring how the proliferation of digital technologies sustain the intersection of direct, cultural and structural forms of GBV. [Galtung \(1990: 291\)](#) defines cultural violence as 'those aspects of culture, the symbolic sphere of our existence – exemplified by religion and ideology, language and art, empirical science and formal science (logic, mathematics) – that can be used to justify or legitimize direct or structural violence'. As digital technologies shift the landscape of structural violence, especially with regard to state surveillance and governance, it is essential that we examine the interaction and coexistence of direct forms of GBV and structural forms of violence. In 'Digital technologies and the violent surveillance of nonbinary gender' [Shelton \(2021\)](#) and colleagues bring the cultural aspects of violence to the fore as they discuss the structures of GBV embedded within digital technologies. In late modern capitalism the potential of digital technologies is all too easily adopted by security concerns as well as by (often transnational) corporate entities, and the authors point out that digital technology then naturalises and reinforces GBV, especially against trans people.

In their Open Space article 'Tech-facilitated violence: thinking structurally and intersectionally', [Bailey and Burkell \(2021\)](#) examine the relations between direct (interpersonal) and structural aspects of tech-facilitated violence, paying attention

to intersecting power relations and both state enacted oppressions and corporate practices. They note that as law is mostly concerned with interpersonal violence and interpersonal remedies, it can fall short of addressing the structural underpinnings of technology and violence which disproportionately harm equality-seeking communities. The examples drawn upon are wide-ranging from predictive policing to the use of ‘beautifying’ social media filters, highlighting the pervasive and often diffuse reach of technology.

We are delighted that this special issue brings together a wealth of knowledge in such a multi-faceted way and we are hugely grateful to all the authors for their valuable contributions to this process. We hope that in coming years research on GBV will continue to focus attention on the impact of digital technologies, including overcoming the ‘digital divide’ of access, digital global resistance and recovery to revealing the complex interactions between state responses, corporate action, civil society and technologically facilitated GBV.

### Conflict of interest

The authors declare that there is no conflict of interest.

### References

- Bailey, J. and Burkell, J. (2021) Tech-facilitated violence: thinking structurally and intersectionally, *Journal of Gender-Based Violence*, 5(3): 531–42. doi: [10.1332/239868021X16286662118554](https://doi.org/10.1332/239868021X16286662118554).
- Barter, C., Richardson Foster, H., Bracewell, K. and Martin, K. (2020) Overcoming emerging DVA issues in practice and research during a pandemic, presentation, Connect Center Conference, 15 September, [www.uclan.ac.uk/connectcentre](http://www.uclan.ac.uk/connectcentre).
- Barter, C., Stanley, N., Wood, M., Lanau, A., Aghtaie, N., Larkins, C. and Øverlien, C. (2017) Young people’s online and face-to-face experiences of interpersonal violence and abuse and their subjective impact across five European countries, *Psychology of Violence*, 7(3): 375–84. doi: [10.1037/vio0000096](https://doi.org/10.1037/vio0000096)
- Begum, R. (2021) Egypt persecutes TikTok women while men get impunity for sexual violence, June 28, The New Arab, <https://www.hrw.org/news/2021/06/28/egypt-persecutes-tiktok-women-while-men-get-impunity-sexual-violence>.
- Bellini, R. and Westmarland, N. (2021) A problem solved is a problem created: the opportunities and challenges associated with an online domestic violence perpetrator programme, *Journal of Gender-Based Violence*, 5(3): 499–515. doi: [10.1332/239868021X16171870951258](https://doi.org/10.1332/239868021X16171870951258).
- Bowles, N. (2018) Thermostats, locks and lights: digital tools of domestic abuse, *The Times*, June 23, <https://www.nytimes.com/2018/06/23/technology/smart-home-devices-domestic-abuse.html>.
- Bracewell, K., Larkins, C. and Stanley, N. (2021) Teenagers’ access to digital technologies and refuge life: balancing safety, risk and protectionism, *Journal of Gender-Based Violence*, 5(3): 467–81. doi: [10.1332/239868021X16141629872905](https://doi.org/10.1332/239868021X16141629872905).
- Cockburn, C. (1985) *Machinery of Dominance: Women, Men and Technical Know-how*, London: Pluto Press Limited.
- Crenshaw, K. (1989) Demarginalizing the intersection of race and sex: a black feminist critique of antidiscrimination doctrine, feminist theory and antiracist politics, *University of Chicago Legal Forum*, 1(8): 139–67.

- Davidge, S. (2020) *A Perfect Storm: The Impact of the Covid-19 Pandemic on Domestic Abuse Survivors and the Services Supporting Them*, Bristol: Women's Aid Federation of England, <https://www.womensaid.org.uk/a-perfect-storm-the-impact-of-the-covid-19-pandemic-on-domestic-abuse-survivors-and-the-services-supporting-them/>.
- Desai, M. (2009) *Gender and the Politics of Possibilities: Rethinking Globalization*, Washington, DC: Rowman & Littlefield Publishers.
- Dragiewicz, M., Harris, B., Woodlock, D. and Salter, M. (2021) Digital media and domestic violence in Australia: essential contexts, *Journal of Gender-Based Violence*, 5(3): 377–93. doi: [10.1332/239868021X16153782923978](https://doi.org/10.1332/239868021X16153782923978).
- Foucault, M. (1995) *Discipline and Punish: The Birth of the Prison*, New York: Vintage Books.
- Galtung, J. (1969) Violence, peace, and peace research, *Journal of Peace Research*, 6(3): 167–91. doi: [10.1177/002234336900600301](https://doi.org/10.1177/002234336900600301)
- Galtung, J. (1990) Cultural violence, *Journal of Peace Research*, 27(3): 291–305. doi: [10.1177/0022343390027003005](https://doi.org/10.1177/0022343390027003005)
- Genera, S., valentine, k. and Breckenridge, J. (2021) The significance of technology as both a resource in enhancing safety, and a means of perpetrating violence: the implications for policy and practice, *Journal of Gender-Based Violence*, 5(3): 413–29. doi: [10.1332/239868021X16255656776492](https://doi.org/10.1332/239868021X16255656776492).
- Gloor, D. and Meier, H. (2020) Does online counselling provide better access to victim services? Insights and reflections from a swiss pilot evaluation, *Journal of Gender-Based Violence*, 4(1): 123–31. doi: [10.1332/239868020X15794803790621](https://doi.org/10.1332/239868020X15794803790621).
- Gregory, A. and Williamson, E. (2021) 'I think it just made everything very much more intense': a qualitative secondary analysis exploring the role of friends and family providing support to survivors of domestic abuse during the COVID-19 pandemic, *Journal of Family Violence*. doi: [10.1007/s10896-021-00292-3](https://doi.org/10.1007/s10896-021-00292-3).
- Harvard, T. and Lefevre, M. (2020) Beyond the power and control wheel: how abusive men manipulate mobile phone technologies to facilitate coercive control, *Journal of Gender-Based Violence*, 4(2): 223–39. doi: [10.1332/239868020X15850131608789](https://doi.org/10.1332/239868020X15850131608789)
- Imkaan (2020) The impact of the dual pandemic's: violence against women & girls and COVID-19 on black and minoritised women & girls, [https://829ef90d-0745-49b2-b404-cbea85f15fda.filesusr.com/ugd/2f475d\\_6d6dea40b8bd42c8a917ba58ceec5793.pdf](https://829ef90d-0745-49b2-b404-cbea85f15fda.filesusr.com/ugd/2f475d_6d6dea40b8bd42c8a917ba58ceec5793.pdf).
- Jain, S. (2020) The rising fourth wave: feminist activism and digital platforms in India, ORF Issue Brief No. 384, July 2020, *Observer Research Foundation*, [https://www.orfonline.org/wp-content/uploads/2020/07/ORF\\_IssueBrief\\_384\\_OnlineFeminism.pdf](https://www.orfonline.org/wp-content/uploads/2020/07/ORF_IssueBrief_384_OnlineFeminism.pdf).
- Koulu, R. (2021) Crafting digital transparency: implementing legal values into algorithmic design, *Critical Analysis of Law*, 8(1): 81–100.
- Leitão, R. (2021) Technology-facilitated intimate partner abuse: a qualitative analysis of data from online domestic abuse forums, *Human-Computer Interaction*, 36(3): 203–42.
- Lessig, L. (1999) *Code and Other Laws of Cyberspace*, New York: Basic Books.
- Marres, N. (2017) *Wiley Digital Sociology: The Reinvention of Social Research*, Cambridge: Wiley.
- Millett, K. (1970) *Sexual Politics*, Garden City, New York: Doubleday
- Mirza, N. (2018) Reframing agency in abusive contexts: beyond 'free choice' and 'open resistance', *Journal of Gender-Based Violence*, 2(1): 41–56. doi: [10.1332/239868017X15127297709475](https://doi.org/10.1332/239868017X15127297709475).



- Montesanti, S. and Thurston, W. (2015) Mapping the role of structural and interpersonal violence in the lives of women: Implications for public health interventions and policy, *BMC Women's Health*, 15: article 100, doi: [10.1186/s12905-015-0256-4](https://doi.org/10.1186/s12905-015-0256-4).
- Munn, L. (2020) Angry by design: toxic communication and technical architectures. *Humanities and Social Science Communications*, 7: 53. doi: [10.1057/s41599-020-00550-7](https://doi.org/10.1057/s41599-020-00550-7)
- Nikupeteri, Katz, E. and Laitinen, M. (2021) Coercive control and technology-facilitated parental stalking in children's and young people's lives, *Journal of Gender-Based Violence*, 5(3): 395–412. doi: [10.1332/239868021X1628524325883](https://doi.org/10.1332/239868021X1628524325883).
- Shalini, M. and Tushar, S. (2020) Gender-based violence during COVID-19 pandemic: a mini-review, *Frontiers in Global Women's Health*, 1, doi: [10.3389/fgwh.2020.00004](https://doi.org/10.3389/fgwh.2020.00004).
- Shelton, J., Kroehle, K., Clark, E., Seelman, K. and Dodd, S. (2021) Digital technologies and the violent surveillance of nonbinary gender, *Journal of Gender-Based Violence*, 5(3): 517–29. doi: [10.1332/239868021X16153783053180](https://doi.org/10.1332/239868021X16153783053180).
- Shoshana, Z. (2019) *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power*, New York: Public Affairs.
- Snook, C. and SafeLives (2017) Tech vs abuse: research findings, *Comic Relief*, January, pp 1–56, <https://safelives.org.uk/sites/default/files/resources/Tech%20vs%20abuse%20report.pdf>.
- Star, S.L. (1999) The ethnography of infrastructure, *American Behavioral Scientist*, 43(3): 377–91. doi: [10.1177/00027649921955326](https://doi.org/10.1177/00027649921955326)
- Tanczer, L., Parkin, S. and López -Neira, I. (2021) I feel like we're really behind the game': perspectives of the United Kingdom's intimate partner violence support sector on the rise of technology-facilitated abuse, *Journal of Gender-Based Violence*, 5(3): 431–50. doi: [10.1332/239868021X16290304343529](https://doi.org/10.1332/239868021X16290304343529).
- Turgoose, D. and McKie, R. (2021) Generic personal safety applications: empowering victims of domestic violence and abuse? A practitioner lens, *Journal of Gender-Based Violence*, 5(3): 451–66. doi: [10.1332/239868021X16254814390107](https://doi.org/10.1332/239868021X16254814390107).
- Turkle, S. (2011) *Alone Together: Why We Expect More from Technology and Less from Each Other*, New York: Basic Books.
- United Nations Broadband Commission (2015) Combatting online violence against women & girls: a worldwide wake-up call, <https://www.broadbandcommission.org/Documents/reports/bb-wg-gender-discussionpaper2015-executive-summary.pdf>.
- Woodlock, D. (2017) The abuse of technology in domestic violence and stalking, *Violence Against Women*, 23(5): 584–602. doi: [10.1177/1077801216646277](https://doi.org/10.1177/1077801216646277).
- Woodlock, D., McKenzie, M., Western, D. and Harris, B. (2019) Technology as a weapon in domestic violence: responding to digital coercive control, *Australian Social Work*, 73(3): 368–80. doi: [10.1080/0312407X.2019.1607510](https://doi.org/10.1080/0312407X.2019.1607510).
- Wordsworth, M. (2015) 'Stalker apps' and GPS allow domestic violence abusers to discover hidden refuges, ABC.net, Posted Sun 28 June, <https://www.abc.net.au/news/2015-06-28/stalker-apps-and-gps-endanger-domestic-violence-victims/6570882>.
- World Health Organization (2020) *Addressing Violence Against Children, Women and Older People During the COVID-19 Pandemic: Key Actions*, Geneva: World Health Organization, <https://apps.who.int/iris/handle/10665/332458>, License: CC BY-NC-SA 3.0 IGO.
- Zauner, J. (2021) The continuum of symbolic violence: how sexting education neglects image-based sexual abuse, dismisses perpetrators' responsibility, and violates rights to sexual autonomy, *Journal of Gender-Based Violence*, 5(3): 483–98. doi: [10.1332/239868021X16123478358067](https://doi.org/10.1332/239868021X16123478358067).