





Measuring technologyfacilitated

gender-based

violence

A discussion paper

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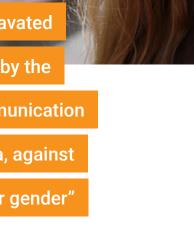
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It has long been recognized that gender-based violence can incorporate acts of physical, sexual, psychological and/or economic abuse (1). Increasingly, there is recognition that these forms of violence may be facilitated by the use of technology, and that technology facilitates emerging forms of violence including, but not limited to, non-consensual sharing of intimate images, private communications, or personal data; image-based sexual abuse; online harassment and abuse; technologyfacilitated sexual abuse; use of diverse forms of technology for surveillance and stalking; and targeted hacking. Technology-facilitated gender-based violence (TF GBV) is experienced in a range of contexts, including dating and intimate partner relationships, most commonly perpetrated by men against women. TF GBV is also disproportionately perpetrated against young women, women who regularly engage in public online spaces (such as journalists, activists, politicians and academics), and people on the basis of their sexual orientation and/or gender identity and expression. It can be perpetrated by people that the victim does not necessarily know, often by multiple actors, and people perpetrating TF GBV can be anonymous. TF GBV can be easily propagated, perpetrated in perpetuity, and by individuals, groups of individuals or technologies and digital platforms which permit or amplify the violence.

UNFPA (2) define TF GBV as
"an act of violence perpetrated
by one or more individuals that
is committed, assisted, aggravated
and amplified in part or fully by the
use of information and communication
technologies or digital media, against
a person on the basis of their gender"
(p.10).



While there are multiple definitions across countries, organizations and practitioners (2), this definition is inclusive of violence that occurs in online spaces and of violence perpetrated through technological means, but which would not necessarily be thought of as "online violence". This definition was developed through analysis of a broad review of existing literature (as of December 2021) to determine the components of TF GBV that would require inclusion and reflection in the definition. A comprehensive list of terms and definitions can be found in the technical paper authored by UNFPA, Technologyfacilitated Gender-based Violence: Making All Spaces Safe. A UN Women and WHO hosted Expert Group Meeting on TF GBV in November 2022 reviewed a range of definitions with a view to standardizing or improving upon existing definitions of TF GBV. A further iteration of the definition was proposed as an outcome, which is as follows:



This definition highlights the intersections between technologies and forms of violence against women that have long been recognized and measured (physical, sexual, psychological and economic harms), as well as harms that are more difficult to measure (social and political harms, and other infringements of rights and freedoms). For the purposes of this paper, we will use the term **technology-facilitated gender-based violence** (TF GBV) as current research indicates that this form of violence is highly gendered and it is critical that this is recognized in any definition.

FIGURE 1 Examples of intersections between different forms of gender-based violence and technologies

	PHYSICAL	PSYCHOLOGICAL	ECONOMIC		SOCIAL, POLITICAL, OTHER
IPV a	Use of "smart devices" to cause a current or former partner physical harm (e.g. using apps to interfere with cars or household appliances)	Obsessive and persistent texting or messaging	Hacking a current or former partner's phone or computer to obtain intimate images or other private information that may be used to blackmail them into unwanted sexual activity, or to extort money from them		Hacking a current or former partner's social media accounts (for example) to alter information and cause them social or political harm
		Use of mobile technology to check a partner's location in a way that feels controlling			
	Use of tracking devices to stalk and locate a current or former partner to enact physical violence	Use of online banking systems to send threatening messages (e.g. through the "notes" attached to payments) or to make nuisance payments (e.g. child support payments made in a large number of transfers of a very small amount)		Non-consensual distribution of sexual images	Denying, limiting and/or monitoring a partner's access to and use of all forms of technology
	Distribution of images or information leading to "honour"- based violence	Forcing a current or former partner to perform sexual acts on camera in exchange for financial payments (e.g. remittances, child support payments)			
Non-partner sexual violence ^b	Use of technology to recruit women and girls into trafficking, early marriage and sexual servitude	Threats of sexual violence intended to cause fear		Using dating apps or other digital tools to obtain access to a person with the intent of committing sexual assault	Defamation on the basis of sexuality and sexual behaviour
		Sending unsolicited sexual images or content		Upskirting	
		Sextortion (coercing or blackmailing a person into sexual activity by threatening to distribute private images or information)			
_		Catfishing			
Other forms of GBV ^c	Cyberstalking or use of technology to track the physical location of a person in order to commit an assault	Mobbing or other forms of online gender-based harassment	Deceiving people into transferring money through online romance scams and fake marriage agencies	Deep fake sexual images or videos	Doxing (disclosing personal information in order to undermine a person's anonymity, privacy, safety, credibility and/ or reputation)
	Publicizing a person's home address with the intent that others may cause them harm	Online threats and intimidation against women in the public sphere	Hacking the bank accounts or other resources of women's rights organizations	Online grooming of a child or adolescent with the intent of committing sexual assault	Impersonating a person to damage their reputation or credibility
-	Hate speech inciting physical violence or undermining participation in the public sphere (especially dangerous when combined with doxing and stalking)			Targeted surveillance of women's sexual and reproductive health organizations and services, including those procured online (which may include abortion, contraception)	

a - Related to SDG indicator 5.2.1, limited aspects of which are currently measured and reported through national prevalence surveys

b - Related to SDG indicator 5.2.2, limited aspects of which are currently measured and reported through national prevalence surveys

c • Related to SDG 5 but not currently measured

As indicated in Figure 1, TF GBV intersects with physical, psychological, sexual and economic violence, and causes social, political and other harms. It should be noted that Figure 1 is indicative of some of these complex intersections, but many more examples could be added. TF GBV may be perpetrated by current or former intimate partners, by known non-partners, by unknown individuals or groups, and by state actors. Technologies are used as a tool to perpetrate and enable forms of offline violence that are currently measured through national surveys and reported in relation to SDG indicators 5.2.1 and 5.2.2. Technologies also enable a range of other forms of gender-based harm not currently measured or well understood. In addition, threats of or enacted physical, sexual and psychological violence can be used to then commit TF GBV (for example, to obtain passwords or access to online accounts, including social media, social security and banking accounts).

Research and evidence about the forms and impacts of, and responses to, TF GBV, though limited, is rapidly growing. This is particularly the case in high-income countries, where researchers have documented the severe impacts of different forms of TF GBV on women and other people targeted on the basis of sexual orientation or gender identity and expression (3,4,5). There has been less research conducted in low- and middle-income countries, though current evidence suggests that TF GBV is common and harmful, and that there is inadequate resourcing of efforts to prevent TF GBV, respond to perpetrators, or to support victims (L1718). Furthermore, across country contexts, evidence indicates that digital platforms are failing to adequately respond to TF GBV, with research revealing numerous issues including inadequate reporting mechanisms and poor enforcement of content moderation policies (4). Indeed, studies suggest that the very design of digital platforms - along with business models that prioritize advertising and seek to optimize engagement - may contribute to the growing prevalence of TF GBV (9). In this environment, there is considerable interest about ways to understand and strengthen measurement of TF GBV.

This paper aims to guide discussion of key considerations relevant to measurement of TF GBV, and is informed by a rigorous scoping review of approaches, tools, instruments and questions used to measure TF GBV conducted July – December 2022. This scoping review was based on a search of seven academic databases, screening of 6,161 documents and full text review of over 300 peer-reviewed articles, as well as review of selected documents from the grey literature. This scoping review also underpins the design of primary research scheduled to commence in the Asia-Pacific region in the first quarter of 2023.

Why do we need data on TF GBV?

The need to address TF GBV is widely recognized by UN agencies, advocates and civil society, with the UN Human Rights Council noting that the rights people have offline must also be protected online - this includes the right to safety, the right to freedom of expression, and the right to privacy (10). Governments are also increasingly aware of the need to ensure citizen safety online through design of regulatory environments which hold business and technology to account to users, as well as ensuring and enforcing systems of safety by design. Currently there is clear international evidence that TF GBV is both common and harmful, requiring national law and policy to enforce effective regulatory systems and to support prevention and response initiatives. However, governments, technology companies and businesses using and storing private information urgently require more evidence to be able to understand trends in this emerging form of genderbased violence. Further evidence is also required to understand the effectiveness of programming and systems of accountability. Civil society need evidence to use in their advocacy in support of survivors, victims and targets of TF GBV.

Some examples of the kinds of evidence that are needed include:

EVIDENCE TYPE OF

Prevalence data

FORMS, ANALYSIS AND PURPOSE OF DIFFERENT TYPES OF EVIDENCE

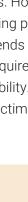
- On the number of people and proportion of a population who have experienced TF GBV
- On the number of people and proportion of a population who have committed TF GBV
- Showing statistical associations between different types of violence, including "online" and "offline" violence
- Showing statistical associations between experiences of TF GBV and different health and social outcomes

Analysis of these data should consider the number and proportion of that population who have access to technology, devices and digital/online spaces. Note that even in settings where a group or individual does not have access to technology, they can still be subject to TF GBV by others.

Analysis of these data should also consider demographic characteristics of respondents, to assess who may be more likely to commit or experience TF GBV. This should include information about profession.

Data about prevalence in the last 12 months may be most helpful, given the speed of change in access to technologies and forms of TF GBV.

Evidence about the extent of the problem, and who might be more likely to experience TF GBV (on the basis of personal characteristics or identity, or professional role, for example), could be used to advocate for adequate resourcing of regulation and other responses to TF GBV.







FORMS, ANALYSIS AND PURPOSE OF DIFFERENT TYPES OF EVIDENCE

- About the proportion of people reporting experiences of TF GBV in convenience or non-random samples. This might
 include, for example, women accessing specialist violence response services, university or high school students,
 women from particular professions or workplaces
- About particular types of TF GBV. This would include, for example, evidence generated through (an often non-random sample of people responding to) a survey about the number of people in a particular group reporting image-based abuse (sometimes referred to as revenge porn) or surveillance where technology was used

Quantitative data collected through, for example, surveys of a non-randomly selected population require careful analysis, as there may be important differences between people who participate in these surveys and the general population. Results should be interpreted with caution. However, this kind of evidence can still be very valuable for increasing understanding about particular issues or groups, and is more widely available than data from population-based surveys.

Quantitative evidence about the extent and nature of TF GBV in particular groups, or about particular types of TF GBV, can be generated more quickly and with less resources than prevalence data from a population-based survey. This evidence is important for advocacy, including advocacy to develop and resource population-based surveys, but also advocacy for response and regulation.

- About the interaction between online and offline forms of violence, and their consequences and impacts
- About the impact and pattern of TF GBV behaviours that lead to physical gender-based violence (including femicide)
- About the strategies people experiencing TF GBV use to keep themselves safe, prevent abuse, and manage the impacts of the violence
- About perpetration and experience of TF GBV across jurisdictions
- About experiences of seeking and receiving help, and from whom
- About new and emerging forms of TF GBV, including for example image-based sexual abuse, gendered disinformation
 and doxing
- About relationships between victims and perpetrators, including state actors

Analysis of this evidence should consider the experiences of people from diverse backgrounds including, for example, women of different ages, lesbian women, and transgender women.

Analysis of this evidence should also consider the relationships between victims and perpetrators, and between perpetrators (noting that TF GBV by one person can easily be replicated and amplified by a large number of people in online spaces, many of whom may be unknown to the victim).

Evidence about a range of people's experiences, including in seeking and receiving effective help, in adopting strategies to keep themselves safe, and in relation to the circumstances in which TF GBV occurs, could be used to design and evaluate prevention and response initiatives.

TYPE OF EVIDENCE

TYPE OF EVIDENCE

Service data

FORMS, ANALYSIS AND PURPOSE OF DIFFERENT TYPES OF EVIDENCE

- On how many people who access specialist violence response services report, or seek help for, TF GBV
- On how many people access other services (including law and justice services, regulators, professional bodies etc.) to seek help for TF GBV
- On referral pathways to specialist support for TF GBV, and between specialist services and technology companies to expedite company responses to immediate harms
- On relationships between TF GBV and femicide
- On service providers' capacities to support clients experiencing TF GBV
- On service providers' identification of, knowledge and perceptions about emerging forms of TF GBV

Analysis of these data should consider what type of people seek what kind of service when experiencing TF GBV – and what type of people may not have access to help at all.

Analysis of these data requires that TF GBV is captured in administrative data systems, and that qualitative data are generated about client and provider experience.

Evidence about service usage and capacity could be used to increase awareness and uptake of services, to strengthen responses and referral pathways, and to inform training and future research.

- Analysis of current regulatory frameworks and responses (subnational, national and international), and how well these
 are integrated across different laws and policies at different levels
- Analysis of policies and practices of technology and communications companies, and of businesses collecting and storing personal data
- Identification of who has the ability to make and enforce legislation and regulations relevant to TF GBV
- Assessment of training requirements for relevant regulatory, law and justice, and violence response service staff

Analysis of these data should pay particular attention to the degree to which state actors, technology companies and businesses can be held to account for their efforts to prevent and respond to TF GBV (and by what mechanisms).

Analysis of these data should seek to identify policies for safety by design; for mitigation and moderation; training of staff in response; and complaints mechanisms.

Evidence about law and policy could be used to strengthen regulatory and accountability frameworks in a particular location, and across jurisdictions; and to strengthen protections in relation to collection and storage of data about all forms of violence, including TF GBV.

Strengths and limitations of different forms of data on TF GBV

PREVALENCE DATA

When combined with data on other forms of GBV, gives a more accurate picture of the extent of GBV in a particular context Strengths Gives governments an estimate of the scale and impact of the problem. This is powerful for advocacy, and can guide responses Can quantify relationships between TF GBV and other forms of violence Able to track change over time at a population level As yet, no internationally agreed questions or indicators that capture the majority of forms of TF GBV or that have been validated in different countries. If only measuring one or two types of TF GBV, prevalence data will severely underestimate the proportion of the population who have experienced TF GBV Keeping questions the same to enable tracking of trends over time may mean emerging forms and mechanisms of TF GBV are not captured, and therefore prevalence is underestimated Measuring frequency or number of incidents of TF GBV (e.g. in the last twelve months) difficult as Challenges or limitations these may not be distinct. For example, it is unclear whether the initial non-consensual uploading of a sexual image of a person (for example) should be considered an incident of TF GBV separate to the subsequent viewing, distribution and/or storage of the image by others. It is unclear how to define what should be considered a specific TF GBV incident, and what acts should be clustered. This is made even more difficult because TF GBV can be committed in perpetuity, with digital materials existing indefinitely or over protracted time periods. Some behaviours, such as the non-consensual distribution of sexual images, only need to occur once to have highly damaging impacts (11). Other behaviours, such as sending a message to an intimate partner to ask about their location, may need to occur repeatedly or with other acts to constitute abuse (12) Frequency measures therefore need to be tailored to the TF GBV behaviour and account for severity Surveys usually only include women aged 15 years and above, so there are challenges capturing TF GBV against young adolescents If generating prevalence data through surveys on violence against women, TF GBV against people who do not identify as women will be not captured

• The nature of TF GBV, and the importance and impact of different forms, are likely to be quite different in different country contexts, making cross-country comparison of prevalence data difficult



Considerations when conducting research on TF GBV

There is growing international interest in ways that the prevalence of TF GBV can be measured, and in generating other forms of evidence on TF GBV. Much of what is currently known about the prevalence and nature of GBV is generated through population-based surveys that are specifically about violence, or are about something else (such as household health or assets) where a "violence module" is added to the survey tool (13). Population-based surveys have been used to generate high-quality data about the prevalence of intimate-partner violence (IPV, the most common form of gender-based violence, usually involving men's use of violence against women), and non-partner sexual violence.

Comparing data from prevalence surveys, collected using the same questions and methodology and conducted at repeated intervals, can enable governments to track trends and patterns over time. If this is something that is a priority for government, it is important to note that this means it is difficult to change questions once they have been devised to determine point-in-time prevalence. This is an especially important consideration for research on the prevalence of TF GBV, where the forms and mechanisms of violence change rapidly - questions to detect emergent forms and mechanisms may need to change over time too. If questions are not picking up current forms of TF GBV, and mechanisms of perpetration, this may lead to the prevalence being underestimated. A severe underestimation of the prevalence of TF GBV may be more damaging than having no prevalence estimate at all.



The use of TF GBV by one partner against the other is usually enacted in the context of other forms of IPV that are already captured by existing instruments to measure the prevalence of violence against women. If the priority of the research is to generate evidence on the prevalence of IPV, adding questions about TF GBV to existing tools may not substantially change the overall prevalence of IPV against women measured in a population. However, TF GBV may be experienced by a woman outside the context of an intimate partnership - this may be violence by someone she does or does not know. Therefore adding guestions about TF GBV to existing tools, and ensuring that guestions are inclusive of perpetrators other than an intimate partner (including a response option that the perpetrator was "unknown"), may substantially change the overall prevalence of violence against women measured in a population survey. This may be valuable information - and enhance understanding about more forms of violence experienced by more women in a population - but it will be important

to be clear about inclusion of new questions if comparing this data to that generated through previous surveys, which would likely focus on IPV and non-partner sexual violence only.

Evidence suggests that **TF GBV is often** experienced by young women from early in adolescence, i.e. before the age of 15 years (12). It is particularly important to generate qualitative and quantitative evidence about TF GBV in early adolescence to inform education, prevention and response initiatives through schools and in relation to the particular types of online spaces and applications that younger adolescents are more likely to use. As violence prevalence surveys usually include participants aged 15 years and above, other forms of evidence may be needed to understand the experience of TF GBV in younger groups.



Current approaches to research on TF GBV tend to focus more on victimization than on perpetration. It is important to learn more about **who is perpetrating TF GBV**, **against whom, in what contexts, with what self-reported rationale, and how** (i.e. using what tools or mechanisms) in order to design and test prevention initiatives. In any research on TF GBV, it will maximize the usefulness of the evidence generated if demographic questions are included about what women do (i.e. their profession or public profile). This may enable the **tailoring of particular prevention and/or response initiatives** including by professional associations.

A separate, but very important consideration involves the technology used to conduct research on violence against women and gender-based violence more broadly. Increasingly surveys, for example, are using Computer Assisted Personal Interviewing (CAPI), where interviewers use software on a tablet or a computer to record women's responses to the survey questions. It is **absolutely vital that such research technology is used safely and ethically, and that data are stored over the long term, managed, and disposed of securely**. The potential for technology-facilitated harms to arise from researchers' use of technology is often inadequately considered in the design of surveys, the use of tools such as CAPI, the training and resourcing of staff, and the long-term storage, management and disposal of data. Safety by design must apply to research and researchers too.¹



L UNFPA will be releasing a "Guidance on the Safe and Ethical Use of Technology for Gender-based Violence and Harmful Practices Interventions" (forthcoming 2023).

Why is it important to understand the context in which TF GBV occurs? How can we do this?

Data about the prevalence of TF GBV, or other quantitative data about TF GBV such as that from surveys with particular populations or about specific forms of TF GBV, needs to be understood in relation to the context (sociocultural, historical-temporal, policy and structural contexts) in which these data were collected.

Deep local understanding about the contexts in which TF GBV is occurring is necessary for policymakers and service providers to assess patterns of violence and the relationships between online and offline forms of violence, and to develop appropriate responses. For example, in some country contexts intimate partners may be separated for extended periods because of migration for work – in such instances, technology may provide new tools for perpetration of IPV at a distance, though the IPV itself may not be new. In this example, understanding about a particular migration context would be necessary to develop appropriate responses to TF GBV. Qualitative research methods may be particularly valuable for deepening understanding of the contexts in which TF GV occurs.

Technology may also be used to enable collusion of perpetrators of violence, including across national borders, in ways that are complex and intermeshed (for example, a woman's family-in-law using technology to demand financial support and incite her partner to use physical violence against her if monies are not forthcoming – in such an instance, a simple recording that an incident of TF GBV had occurred would not capture the complex context in which an effective response would need to be situated). Technologies can be weaponized differently in different country contexts, and among different groups within countries, making cross-country comparisons of data difficult. Therefore it is unclear whether generating prevalence data on TF GBV that can be compared across countries is as important as generating prevalence data on TF GBV that captures the specific behaviours of most concern in a particular country.

Conclusion

TF GBV is an emerging form of gender-based violence that is common, harmful, rapidly changing and not yet well understood or measured. Despite global interest in measuring the prevalence of TF GBV through questions that can be used across country contexts, it is crucial there is further research to increase understanding of the forms, impacts and dynamics of TF GBV at a national level before developing questions for prevalence surveys. It is important to support the generation of indepth qualitative evidence, robust quantitative data about specific forms of TF GBV and service data, and analysis of policy and legislation to develop a rich body of national evidence and to support learning and advocacy about this emergent form of gender-based harm. This evidence should be generated in ways that enable research participants' choices in how they engage with technologies used in research, are mindful of the trauma that TF GBV may have caused, and take a healing-informed approach to working with survivors to understand their experiences of TF GBV.

In all our work to research and measure TF GBV it is vital that we, as researchers, do no harm. Severely underestimating the prevalence of TF GBV through the use of partial measures, or questions that do not capture contemporary technology-related experiences of violence, may be more damaging than not having any data at all. Conducting research without sufficiently robust and ethical approaches to the use of technology to capture and store data places respondents and researchers at risk.

While this discussion paper is a call for more, and better, data on TF GBV, the limited evidence base is not an excuse for delaying creation of effective regulatory systems or holding back support for prevention and response initiatives. These are urgently required now. Researchers need to work with networks of feminist technologists, GBV service providers, civil society organizations, and governments to design regulatory spaces which reflect the evidence already available. Researchers also need to support these networks to generate evidence that can continually improve responses to TF GBV in line with ever-evolving technologies and tactics, and that can increase understanding of whether and how interventions are actually working to make all spaces safe for all women and girls.

Suggested citation

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