

# Technology-Facilitated Gender-Based Violence as an Attack on Women's Public Participation: Review of Global Evidence and Implications

Transform Digital Spaces to Reflect Feminist Democratic Principles (Transform) Activity



## **Technology-Facilitated Gender-Based Violence as an Attack on Women’s Public Participation: Review of Global Evidence and Implications**

The Technology-Facilitated Gender-Based Violence as an Attack on Women’s Public Participation: Review of Global Evidence and Implications reflects the collaboration and contribution of many people and organizations engaged in preventing, responding to, and mitigating Technology-Facilitated Gender-Based Violence. All sources have been cited. Contributors of individuals remain unnamed here for their confidentiality and safety.

Prepared by IREX

Copyright © 2023 by IREX

Date of publication: August 2023

**Notice of Rights:** Permission is granted to display, copy, and distribute the Review in whole or in part, provided that: (a) the materials are used with the acknowledgement “Technology-Facilitated Gender-Based Violence as an Attack on Women’s Public Participation: Review of Global Evidence and Implications is a product of IREX with funding from USAID.”; (b) The Review is used solely for personal, noncommercial, or informational use; and (c) no modifications of the Review are made.

This Review may be shared in whole or in part, with attribution. Translation to aid sharing is encouraged. IREX requests that copies of any translations be shared with us.

**Disclaimer:** This report is made possible by the generous support of the American people through the United States Agency for International Development (USAID), under the terms of award no. 7200AA22RFA00021. The contents are the responsibility of IREX and do not necessarily reflect the views of USAID or the United States Government.

# Contents

<b>Acronyms and Abbreviations .....</b>	<b>4</b>
<b>Executive Summary .....</b>	<b>5</b>
<b>Introduction.....</b>	<b>6</b>
<b>Methodology .....</b>	<b>8</b>
Data Collection and Limitations .....	8
<b>Findings .....</b>	<b>9</b>
Gaps in the Evidence Base .....	9
Intersectional Risk: Individual Level Impacts on WIPPL .....	10
Impunity and Lack of Accountability: Systems Level Impacts on Democracy and Pluralism .....	11
Regional Differences .....	12
Enabling Environment: Role of Technology Platforms and Legal Frameworks .....	13
Human Problem, Propelled by Technology .....	14
TFGBV Not Seen as Everyone’s Responsibility.....	14
Closing space for Civil Society Worldwide .....	15
<b>Implications for TFGBV Programs.....</b>	<b>16</b>
<b>Conclusion.....</b>	<b>18</b>

# Acronyms and Abbreviations

<b>CAB</b>	Community Advisory Board
<b>CSM-STAND</b>	Civil Society and Media – Strengthened Together and Advancing in New Directions
<b>CSO</b>	Civil Society Organization
<b>GBV</b>	Gender-Based Violence
<b>GESI</b>	Gender Equality and Social Inclusion
<b>IPV</b>	Intimate Partner Violence
<b>LAC</b>	Latin America and the Caribbean
<b>LGBTQI+</b>	Lesbian, Gay, Bisexual, Transgender, Queer Intersex +
<b>MENA</b>	Middle East North Africa
<b>NGO</b>	Non-Governmental Organization
<b>NORC</b>	National Opinion Research Center
<b>OGBV</b>	Online Gender-Based Violence
<b>RBA</b>	Rights based approaches
<b>SGBV</b>	Sexual and Gender- Based Violence
<b>TFGBV</b>	Technology-Facilitated Gender-Based Violence
<b>VAWG</b>	Violence against Women and Girls
<b>VAWP</b>	Violence against Women in Politics
<b>VAWPP</b>	Violence Against Women in Politics and Public Life
<b>WHRD</b>	Women Human Rights Defenders
<b>WIPPL</b>	Women in Politics and Public Life
<b>WPS</b>	Women, Peace and Security

# Executive Summary

**T**echnology-facilitated gender-based violence (TFGBV) is a global threat to health, safety, and political and economic wellbeing—not just to those who experience it, but to society as a whole. Indeed, the 67th session of the Commission on the Status of Women (2023) highlighted the deep impact of technological change on the empowerment of all women and girls and the ability to achieve gender equality<sup>1</sup>. The Transform Digital Spaces to Reflect Feminist Democratic Principles (Transform) project is a three-year, three country pilot effort to effectively redress the impact of TFGBV on Women in Politics and Public Life (WIPPL)<sup>2</sup>. WIPPL includes women in politics, women human rights defenders (WHRDs), women journalists, and women active in civil society or other areas of public life. To this end, baseline research was conducted to inform Transform program design and delivery.

**TFGBV is 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 (UNFPA 2021).**

This landscape assessment revealed substantial gaps in the evidence base around TFGBV and highlighted the intersectional risks facing WIPPL. Transform identified widespread impunity and lack of accountability for TFGBV as well as some varying regional patterns. The landscape assessment mapped the technological enabling environment for TFGBV and found that the problem is

largely driven by human dimensions that are amplified by technology. This assessment identified major barriers to responding to TFGBV due to the perception that this is a problem for women instead of everyone's responsibility as well as the increasingly closing spaces for Civil Society Organizations (CSOs) worldwide.

This landscape assessment serves as a baseline which may be utilized throughout Transform program implementation to form strategic connections and coordinate with diverse stakeholders, expand awareness of TFGBV, implement rights-based approaches (RBAs), and project values among project partners and stakeholders.

Collectively, these findings highlight the presence of an extensive threat to women's participation in political and public life that is inconsistently documented. On the basis of these findings, Transform identified important implications for initiatives and programs intended to address TFGBV, including the need to build networks and coalitions across sectors, including people of all genders, to strengthen accountability, while centering survivors of TFGBV and supporting the organizations that serve them, especially in closing contexts.

Transform partners Pact, Makaia, Moonshot, and Sonke (hereafter referred to as "Transform Partners") contributed substantially and were instrumental to developing the research methodology, amassing the findings, analyzing the resulting qualitative and quantitative data, and in making key decisions such as the filtering out and selection of potential pilot country locations for Transform activities. Their contributions are noted throughout this assessment report.

1. UN Women. (2023). <https://www.unwomen.org/en/csw/csw67-2023>

2. Transform is an Associate Award under the Leader with Associate Awards No. 7200AA21LE00004; Civil Society and Media - Strengthened Together and Advancing in New Directions (CSM-STAND) Africa and MENA (Middle East North Africa). It is implemented by IREX, Pact, Makaia, Sonke Gender Justice, and Moonshot.

# Introduction

**It is important to make a distinction between forms of TFGBV characteristic of intimate partner violence and domestic violence, such as abuse and coercion perpetrated by partners and relatives through proximity to the survivor (e.g. shared data plans and devices), and forms of TFGBV characteristic of anti-democratic forces, such as abuse and harassment of WIPPL perpetrated by strangers, trolls and bots using social media to silence, intimidate and drive women and gender diverse leaders out of public civic spaces (e.g. smear campaigns, threats, doxing and gendered disinformation).**

**T**echnology-facilitated gender-based violence (TFGBV) is an increasingly prevalent threat to individual, community, and societal safety and wellbeing globally. Defined 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 [or group of persons] on the basis of their gender”<sup>3</sup>, TFGBV encompasses—but is

not limited to—actions such as stalking, bullying, sexual harassment, defamation, hate speech and exploitation. Additionally, TFGBV can include publishing someone’s personal information (doxing), impersonation, and online disinformation and misinformation that frequently appeals to misogynistic cultural tropes. TFGBV can also lead to offline forms of GBV including physical, sexual, psychological, and economic harm.<sup>4</sup>

Much like traditional forms of gender-based violence, there is clear data to indicate that TFGBV is a universal problem<sup>5</sup> that affects women in all their diversity regardless of socioeconomic class, educational status, religious affiliation, or other social identities<sup>6</sup>. TFGBV reinforces gendered stereotypes and rigid patriarchal social norms, and harms the well-being of those who experience as well as witness it. Like GBV, TFGBV exacerbates other forms of harm directed at women, girls and LGBTQIA+ persons based on racialized ethnicities, caste, [dis]ability and other intersecting identities. However, TFGBV is uniquely able to amplify and persist in perpetrating harm against women and gender diverse individuals with highly visible online presence due to occupation or activism, resulting in systematic silencing of women in public spaces such as politics, journalism, and civic activism—a phenomena known informally as the “chilling effect”<sup>7</sup>.

3. UN Report. (2021). *Technology-facilitated Gender-based Violence: Making All Spaces Safe*. <https://www.unfpa.org/sites/default/files/pub-pdf/UNFPA-TFGBV-Making%20All%20Spaces%20Safe.pdf> In this report, Transform has retained the use of the UNFPA definition to maintain consistency with previous program documents. The definition and types of TFGBV provided in USAID’s 2023 *Gender Equality and Women’s Empowerment Policy* are considered in Annex I.

4. Ibid.

5. The Economist Intelligence Unit. (2021). *Measuring the prevalence of online violence against women*. <https://onlineviolencewomen.eiu.com/>

6. German Society for International Cooperation (GIZ). (2022). *The influence of gender-based online violence on political and societal participation of women and girls*. [https://gender-works.giz.de/wp-content/uploads/2022/05/GIZ\\_2022\\_EN\\_Briefing-Paper\\_The-influence-of-GBOV-on-political-and-societal-participation-of-women-and-girls.pdf](https://gender-works.giz.de/wp-content/uploads/2022/05/GIZ_2022_EN_Briefing-Paper_The-influence-of-GBOV-on-political-and-societal-participation-of-women-and-girls.pdf)

7. National Democratic Institute. (2019). *Tweets That Chill: Analyzing Online Violence Against Women in Politics*. <https://www.ndi.org/tweets-that-chill>

Nearly 40% of women globally have experienced TFGBV<sup>8</sup>, with research highlighting certain groups of women that are at higher risk of attack, including women in politics, women journalists, women human rights defenders, and other women in public facing roles.<sup>9</sup> The Transform project centers these Women in Politics and Public Life (WIPPL), and the nuanced ways TFGBV threatens and impacts them. TFGBV is an increasingly prominent form of violence against women in politics (VAWP), which is defined as an “act, or threat, of physical, sexual or psychological violence that prevents women from exercising and realizing their political rights and a range of human rights.”<sup>10</sup>

WIPPL are especially targeted by technology-facilitated violence given their high visibility and public-facing role. Research shows that TFGBV is often perpetrated with full impunity, causing many women to step out of public life to protect themselves from the many risks to their emotional, physical, social, and economic well-being in addition to those of their families, as threats are often extended to the target's children, siblings, and other relations<sup>11</sup>. Indeed, it's not uncommon for online violence to lead to offline harm—a report by UNESCO found that 20% of the women journalists they surveyed had received offline abuse related to instances of online violence<sup>12</sup>.

In addition to its toll on individuals' well-being, the chilling effect of TFGBV, whereby women decrease their civic participation and increase self-censorship, negatively impacts institutions, communities, and countries, and exacerbates the global trend of growing digital authoritarianism<sup>13</sup>. Indeed, when WIPPL are publicly targeted, this chilling effect often spreads to women within their communities and beyond, drastically reducing the political ambitions and civic engagement of those women as well<sup>14</sup>. TFGBV is thus a threat to democratic and pluralistic societies as well as a violation of an individual's human rights.

Of note, there are gaps and inconsistencies in the current evidence base, which does not fully contextualize TFGBV within unique regional, national, and subnational patterns. These gaps present challenges in informing nuanced, effective solutions to eliminate TFGBV against WIPPL, and will be elaborated upon later in this assessment.

8. UN Report. (2021). *Technology-facilitated Gender-based Violence: Making All Spaces Safe*. <https://www.unfpa.org/sites/default/files/pub-pdf/UNFPA-TFGBV-Making%20All%20Spaces%20Safe.pdf>

9. Ibid.

10. UN Women. (2021). *Guidance Note: Preventing Violence Against Women in Politics*. <https://www.unwomen.org/sites/default/files/Headquarters/Attachments/Sections/Library/Publications/2021/Guidance-note-Preventing-violence-against-women-in-politics-en.pdf>

11. UN Report (2021). *Technology-facilitated Gender-based Violence: Making All Spaces Safe*. <https://www.unfpa.org/sites/default/files/pub-pdf/UNFPA-TFGBV-Making%20All%20Spaces%20Safe.pdf>

12. UNESCO (2021). *The Chilling: global trends in online violence against women*. <https://unesdoc.unesco.org/ark:/48223/pf0000377223>

13. German Society for International Cooperation (GIZ). (2022). *The influence of gender-based online violence on political and societal participation of women and girls*. [https://gender-works.giz.de/wp-content/uploads/2022/05/GIZ\\_2022\\_EN\\_Briefing-Paper\\_The-influence-of-GBOV-on-political-and-societal-participation-of-women-and-girls.pdf](https://gender-works.giz.de/wp-content/uploads/2022/05/GIZ_2022_EN_Briefing-Paper_The-influence-of-GBOV-on-political-and-societal-participation-of-women-and-girls.pdf)

14. National Democratic Institute. (2021). *Tweets That Chill: Analyzing Online Violence against Women in Politics*. <https://www.ndi.org/tweets-that-chill>

# Methodology

## Data Collection and Limitations

The methodology for the landscape assessment was discussed and refined with Transform partners to validate the approach and to incorporate their research insights. The assessment was conducted through an iterative process involving two simultaneous and coordinated streams of data collection and analysis. The first stream involved the collection and contextualization of quantitative data from global databases related to various aspects of the threat posed by TFGBV and factors that contribute to its proliferation. The second stream was qualitative data gleaned from interviews with experts, practitioners, and survivors in the TFGBV and VAWPP fields, in addition to the Transform co-creation process to map local and regional organizations, networks, and initiatives focused on TFGBV broadly and TFGBV targeted against WIPPL. These two streams of data collection were then subjected to a multi-stage process of analysis.

Given the global scope of TFGBV, completing a landscape assessment proved to be a significant task. Indeed, TFGBV is often highly contextualized linguistically and normatively, which complicates efforts to map the global landscape of its prevalence and efforts to prevent and mitigate it. Data searches were conducted in Arabic, English, French, Russian, Spanish, and Ukrainian. While the iterative approach enabled a narrowing of the preliminary list of countries based on specific criteria in some instances, inconsistencies in data presented challenges. To date, there is no single TFGBV reference resource with global coverage with easily interpretable quantitative data. For example, metrics on digital access by gender can be individual, household, or non-existent.



# Findings

## Gaps in the Evidence Base

Globally, several phenomena related to TFGBV are well-documented: sexual and gender-based violence (SGBV) incidence rates; gendered and other digital divides; gendered rates of political participation, and similar statistics. While TFGBV is increasing in form and sophistication globally due to advances in digital technology and social media, there remain significant inconsistencies in empirical research at the global level, including in many places where data on TFGBV is **extremely limited or nonexistent**<sup>15</sup>. In addition, the UNFPA report, *Technology-facilitated Gender-based Violence: Making All Spaces Safe*, notes several challenges which will make future endeavors to measure the impact and extent of TFGBV difficult, including the absence of a standard definition of TFGBV and its many sub-sets, prevalence data which does not take into account internet and technology gender divides; and the new forms of TFGBV that will emerge as technology evolves and new digital spaces appear<sup>16</sup>. A recent UNFPA discussion paper notes a particularly low amount of “research conducted in low- and middle-income countries, though current evidence suggests that TFGBV is common and harmful, and that there is inadequate resourcing of efforts to prevent TFGBV, respond to perpetrators, or to support victims.”<sup>17</sup>

In addition, the landscape assessment documented:



**Regional data inconsistencies and gaps:** When there is data available, it is not always consistent across sources, indicating that there is limited communication and collaboration between organizations that are capturing regional data.



**Thematic data inconsistencies and gaps:** While there is quantitative data available on women's participation in politics, and some on how TFGBV targets and affects women in politics and women journalists, there is significantly less on how TFGBV targets and affects WHRDs and other women in public-facing roles<sup>18</sup>.



**Geographical gaps:** There is little data about perpetrators of TFGBV outside of a few countries in the Global North<sup>19</sup>.



**Intersectional data inconsistencies and gaps:** There is strong evidence that TFGBV has become yet another inequity experienced by women and gender diverse persons who experience multiple forms of discrimination on the basis of racialized ethnicities, indigeneity, [dis]ability and sexual orientation, and other intersecting identities<sup>20</sup>. However, data on effective intersectional solutions is lacking.

15. UN Report. (2021). *Technology-facilitated Gender-based Violence: Making All Spaces Safe*. <https://www.unfpa.org/sites/default/files/pub-pdf/UNFPA-TFGBV-Making%20All%20Spaces%20Safe.pdf>

16. Ibid.

17. University of Melbourne – United Nations Population Fund. (2023). *Measuring technology-facilitated gender-based violence. A discussion paper*. [https://www.unfpa.org/sites/default/files/pub-pdf/UNFPA\\_Measuring%20TF%20GBV\\_%20A%20Discussion%20Paper\\_FINAL.pdf](https://www.unfpa.org/sites/default/files/pub-pdf/UNFPA_Measuring%20TF%20GBV_%20A%20Discussion%20Paper_FINAL.pdf)

18. Dan Church Aid Report. (2023). *Online Harassment and Censorship of Women Human Rights Defenders*. <https://www.danchurchaid.org/report-online-harassment-and-censorship-of-women-human-rights-defenders>

19. US Foreign, Commonwealth & Development Office. (2023). *Towards a research agenda for technology-facilitated gender-based violence: a preliminary landscape analysis, March 2023 note*. <https://www.gov.uk/government/publications/technology-facilitated-gender-based-violence-preliminary-landscape-analysis-march-2023-note/towards-a-research-agenda-for-technology-facilitated-gender-based-violence-a-preliminary-landscape-analysis-march-2023-note#a-commitment-to-data-and-evidence-on-tfgbv>

20. Ibid.



**Linguistic inconsistencies and gaps:** Searches conducted in languages other than English, including Spanish, French, Arabic, Russian, and Ukrainian, highlighted the lack of consistent and relevant lexicons in some languages, such as French and Arabic.



**Technology data inconsistencies and gaps:** Indicators tracking technology access and use do not consistently disaggregate by gender on a country-by-country level, making the internet gender gap the best proxy to reveal inequities in access that may influence TFGBV.

## Intersectional Risk: Individual Level Impacts on WIPPL

Women in public life, especially journalists, politicians, and WHRDs, are frequent targets of generalized gendered disinformation and misogynistic hate speech, in addition to specific online threats such as those against their bodily integrity, smear campaigns against their professional integrity and expertise, and privacy violations such as doxing<sup>21</sup>. They often incur significant financial costs to ensure their own physical and psychosocial safety and wellbeing<sup>22</sup>.

Indeed, the statistics are quite alarming—while it is difficult to precisely measure the extent and impact of online violence against women, one study found that globally, 38% of women have experienced online violence and 85% of women have witnessed online violence

being perpetrated against another woman<sup>23</sup>. A study by the International Women's Media Foundation found that 63% of women journalists have indicated being harassed online<sup>24</sup>. Of those, over a third admitted that the harassment had led to them avoiding covering certain types of stories likely to provoke negative reactions online<sup>25</sup>. A study by the Inter-Parliamentary Union found that over 80% of women parliamentarians surveyed had reported experiencing psychological violence on social media, and nearly a third indicated that that harassment had undermined their ability to effectively fulfil their mandates and freely express their opinions<sup>26</sup>.

Reports of state-sponsored attacks on women journalists and politicians exist across the globe. For example, in 2020 Brazilian women journalists reported being attacked by President Jair Bolsonaro after writing articles critical of the government. These attacks included online harassment and smear campaigns<sup>27</sup>.

As noted above, while data on WHRDs is not as widely available, there remains significant evidence that they face similar levels of threat and impact<sup>28</sup>. One report by the Centre for Women, Peace, and Security (WPS) noted that WHRDs are consistently left behind in efforts to promote women's equal rights within peacebuilding initiatives, and that their participation in public life is dismissed and delegitimized<sup>29</sup>. The same report suggested that WHRDs are attacked by both state and non-state actors, "including governments, police forces, the military, family members and fundamentalist groups." WPS also noted that attacks toward WHRDs are not tracked or considered indicators in national peace plans.<sup>30</sup>

Furthermore, research indicates that WIPPL with intersecting marginalized identities, such as LGBTQIA+

21. Commonwealth Parliamentary Association UK. (2021). *Online Violence against Women Parliamentarians Hinders Democracy, and All Parliamentarians Are Responsible for Addressing It*. <https://www.uk-cpa.org/news-and-views/online-violence-against-women-parliamentarians-hinders-democracy-and-all-parliamentarians-are-responsible-for-addressing-it/>

22. Ibid.

23. The Economist Intelligence Unit. (2021). *Measuring the prevalence of online violence against women*. <https://onlineviolencewomen.eiu.com/>

24. International Women's Media Foundation. (2018). *Attacks and Harassment: The Impact on Female Journalists and Their Reporting*. <https://www.iwmf.org/wp-content/uploads/2018/09/Attacks-and-Harassment.pdf>

25. Ibid.

26. Inter-Parliamentary Union. (2016). *Sexism, harassment and violence against women parliamentarians*. <https://www.ipu.org/resources/publications/issue-briefs/2016-10/sexism-harassment-and-violence-against-women-parliamentarians>

27. Article 19. (2020). *HRC44: Organisations denounce Bolsonaro government attacks on women journalists*. [www.article19.org/resources/hrc44-organisations-denounce-bolsonaro-government-attacks-on-women-journalists/](http://www.article19.org/resources/hrc44-organisations-denounce-bolsonaro-government-attacks-on-women-journalists/)

28. Dan Church Aid Report. (2023). *Online Harassment and Censorship of Women Human Rights Defenders*. <https://www.danchurchaid.org/report-online-harassment-and-censorship-of-women-human-rights-defenders>

29. Dwyer, Amy. (2020). *Women Human Rights Defenders: Left behind in the women, peace and security agenda*. <https://www.lse.ac.uk/women-peace-security/assets/documents/2020/PBS01Dwyer.pdf>

30. Ibid.

individuals, persons with disabilities, and Black, Indigenous, and people of color, face higher risk for TFGBV, and the attacks often target their gender in conjunction with additional identities<sup>31</sup>. For example, Amnesty International found when mapping online abuse on Twitter that women of color were 34% more likely to receive abuse than white women<sup>32</sup>.

The effects of this online harassment and abuse are significant. Amnesty International reported that when women are harassed online, they often will self-censor, edit their content, delete their content, or entirely leave online platforms to avoid daily harassment. The same report found that “between 63% and 83% of women who had been harassed online changed the way they used social media, and 32% said they stopped posting content about certain issues that are important to them.”<sup>33</sup> The end result—a “chilling effect” which negatively impacts institutions, communities, and countries, and exacerbates the global trend of growing digital authoritarianism—is, unfortunately, the goal of those who perpetrate this online violence.

For gender-based violence, both on and offline, it is not uncommon for discourse to minimize the violence, and even contribute to “victim blaming,” where a survivor of violence is blamed for the abuse aimed at them. Indeed, for WIPPL, TFGBV is framed by some as “the cost” of doing politics or being a public-facing figure<sup>34</sup>. Survivors can sometimes internalize those messages and blame themselves<sup>35</sup>. As with GBV in general, mental disorders such as post-traumatic stress disorder, major depressive disorder, generalized anxiety disorder, and panic disorder can result from the psychological stress

associated with fear of and exposure to repeated online violence. Emotional and psychological stress caused by TFGBV are extremely common affecting anywhere from 28% to 65% of survivors across the globe.<sup>36</sup>

## Impunity and Lack of Accountability: Systems Level Impacts on Democracy and Pluralism

A UN Women guidance note on preventing violence against women in politics averred that violence against women politicians is not a “normal” part of politics, and must be confronted systematically to reduce risk, transform policy, shift social norms, and ensure greater representation of women in public life.<sup>37</sup> However, research reveals that violence towards and dismissal of WIPPL is often seen by the public as simply an inescapable feature of participating in domestic politics and activism. TFGBV is so pervasive and common, that many, including survivors themselves, see the issue as something normal to be tolerated; unavoidable for people in public facing roles, especially given that most judicial systems turn a blind eye to TFGBV, creating barriers to accountability and justice<sup>38</sup>. Indeed, TFGBV is often perpetrated with impunity, given that it is often committed anonymously and from a distance<sup>39</sup>. According to the UN, only one in five women live in a country where punishment is likely for online abuse<sup>40</sup>. Given this impunity, women are often reluctant to report the abuse they encounter<sup>41</sup>.

Online violence “reinforces inequality and maintains discriminatory norms,” “maintains and reinforces

31. Ibid.

32. Amnesty International. (2018). *Crowdsourced Twitter study reveals shocking scale of online abuse against women*. <https://www.amnesty.org/en/latest/press-release/2018/12/crowdsourced-twitter-study-reveals-shocking-scale-of-online-abuse-against-women/>

33. Amnesty International. (2018). *Toxic Twitter*. [www.amnesty.org/en/latest/research/2018/03/online-violence-against-women-chapter-1/](http://www.amnesty.org/en/latest/research/2018/03/online-violence-against-women-chapter-1/)

34. CEPPS. (n.d.). *Online Violence Against Women*. <https://cepps.org/online-violence/>

35. Veletsianos, George, Shandell Houlden, Jaigris Hodson and Chandell Gosse. (2018). *Women scholars' experiences with online harassment and abuse: Self-protection, resistance, acceptance, and self-blame*. *New Media & Society* 20 (12): 4689–708.

36. Dunn, Suzie. (2020). *Technology-Facilitated Gender-Based Violence: An Overview*. [https://www.cigionline.org/static/documents/documents/SaferInternet\\_Paper%20no%201\\_0.pdf](https://www.cigionline.org/static/documents/documents/SaferInternet_Paper%20no%201_0.pdf)

37. UN Women. (2021). *Guidance note: Preventing violence against women in politics*. <https://www.unwomen.org/sites/default/files/Headquarters/Attachments/Sections/Library/Publications/2021/Guidance-note-Preventing-violence-against-women-in-politics-en.pdf>

38. Dunn, Suzie. (2020). *Technology-Facilitated Gender-Based Violence: An Overview*. [https://www.cigionline.org/static/documents/documents/SaferInternet\\_Paper%20no%201\\_0.pdf](https://www.cigionline.org/static/documents/documents/SaferInternet_Paper%20no%201_0.pdf)

39. UN Report. (2021). *Technology-facilitated Gender-based Violence: Making All Spaces Safe*. <https://www.unfpa.org/sites/default/files/pub-pdf/UNFPA-TFGBV-Making%20All%20Spaces%20Safe.pdf>

40. Broadband Commission Working Group on Gender. (2015). *Combatting Online Violence against Women & Girls: A Worldwide Wake-Up Call: Highlight*. <https://en.unesco.org/sites/default/files/highlightdocumentenglish.pdf>

41. Slafer, Haley. (2023). *A piece of the Solution to Online Violence Against Women*. <https://internews.org/commentary/a-piece-of-the-solution-to-online-violence-against-women/>

patriarchal gender hierarchies,” and can result in WIPPL choosing not to engage in public life or similar roles, for fear of abuse<sup>42</sup>. As a result of TFGBV, women in public life can feel compelled to withdraw from online—as well as offline—public spaces<sup>43</sup>. Women politicians often rely on social media platforms to engage with their constituents, solicit views from the public, share information, and serve their communities. After experiencing high levels of online violence, in addition to threats of physical violence, 76% of women changed how they use social media and 32% avoided posting about their opinion on certain topics.<sup>44</sup> TFGBV can also lead to fewer women engaging in politics or any other public facing position<sup>45</sup>. These effects trickle down to future generations as well—for example, a report by Plan International found that 20% of girls surveyed reported no longer engaging in politics or current affairs because of prevalent gendered disinformation<sup>46</sup>.

A powerful outcome of TFGBV is the silencing of the voices of women online, whether through self-censorship, a reduction in civic and political participation, or the decision to avoid or prematurely end public leadership roles<sup>47</sup>. Furthermore, women who address topics online related to gender equality and social inclusion and/or human rights experience higher risk. A study by Plan International found that women and girls who spoke about political issues such as race, feminism, and human rights experienced even higher rates of TFGBV<sup>48</sup>.

## Regional Differences

There is limited local and national level data available regarding TFGBV rates<sup>49</sup>. However, research on regional TFGBV trends found that Middle East North Africa (MENA) has the highest rate of TFGBV at 98%, followed by Latin America and the Caribbean (LAC)<sup>50</sup>(note that this is in the context of a global prevalence rate of 85%). It is difficult to find indexes that provide multi-country, consistent data on women's participation in public life. For example, there are gaps in information regarding quotas for women in parliament. Consistent global data on women activists is also lacking<sup>51</sup>; comprehensive data was only found for Arab States, from UN Women<sup>52</sup>.

A landscape analysis of TFGBV effects in Asia by National Opinion Research Center (NORC) at the University of Chicago and the International Center for Research on Women highlighted several contextual factors related to TFGBV in the region that contribute to its prevalence there, including patriarchal societal norms, familial power dynamics, taboos surrounding sex and sexuality, and normalization of GBV<sup>53</sup>. As in many other regions, the constantly evolving technological landscape is another factor that has contributed to increasing rates of TFGBV in Asia.

In Latin America, women facing threats that reference kidnapping their children, “corrective rape,” and death threats report that it can be difficult to differentiate

42. Dunn, Suzie. (2020). *Technology-Facilitated Gender-Based Violence: An Overview*. [https://www.cigionline.org/static/documents/documents/SaferInternet\\_Paper%20no%201\\_0.pdf](https://www.cigionline.org/static/documents/documents/SaferInternet_Paper%20no%201_0.pdf)

43. Ruiz-Navarro, Catalina. (2016). *Political Violence is Directly Linked to Online Harassment*. <https://womensmediacenter.com/speech-project/political-violence-directly-linked-online-harassment-catalina-ruiz-navarro>

44. GIZ. (2022). *The influence of gender-based online violence on political and societal participation of women and girls*. [https://gender-works.giz.de/wp-content/uploads/2022/05/GIZ\\_2022\\_EN\\_Briefing-Paper\\_The-influence-of-GBOV-on-political-and-societal-participation-of-women-and-girls.pdf](https://gender-works.giz.de/wp-content/uploads/2022/05/GIZ_2022_EN_Briefing-Paper_The-influence-of-GBOV-on-political-and-societal-participation-of-women-and-girls.pdf)

45. Ibid.

46. Plan International. (2021). *The Truth Gap: How Misinformation and Disinformation Online Affect the Lives, Learning, and Leadership of Girls and Young Women*. <https://plan-international.org/uploads/2022/02/sotwgr2021-commsreport-en.pdf>

47. Slafer, Haley. (2023). *A piece of the solution to online violence against women*. <https://internews.org/commentary/a-piece-of-the-solution-to-online-violence-against-women/>

48. Plan International. (2020). *Free to be online? Girls' and Young women's experiences of online harassment*. <https://plan-international.org/publications/freetobeonline>

49. UN Report. (2021). *Technology-facilitated Gender-based Violence: Making All Spaces Safe*. <https://www.unfpa.org/sites/default/files/pub-pdf/UNFPA-TFGBV-Making%20All%20Spaces%20Safe.pdf>

50. The Economist Intelligence Unit. (2021). *Measuring the prevalence of online violence against women*. <https://onlineviolencewomen.eiu.com/>

51. Dan Church Aid Report. (2023). *Online Harassment and Censorship of Women Human Rights Defenders*. <https://www.danchurchaid.org/report-online-harassment-and-censorship-of-women-human-rights-defenders>

52. UN Women. (2021). *Violence against women in the online space: insights from a multi-country study in the Arab States*. <https://arabstates.unwomen.org/en/digital-library/publications/2021/11/violence-against-women-in-the-online-space>

53. NORC at the University of Chicago and the International Center for Research on Women (ICRW). (2022). *Landscape Analysis of Technology-Facilitated Gender-Based Violence: Findings from Asia*. [https://pdf.usaid.gov/pdf\\_docs/PA00Z7GS.pdf](https://pdf.usaid.gov/pdf_docs/PA00Z7GS.pdf)

between “misogynistic abusers trying to cause emotional distress and those who actually follow through with their threats.”<sup>54</sup> Latin America experiences very high rates of GBV<sup>55</sup>, and given social norms and political impunity it is not unreasonable for survivors of TFGBV to experience legitimate concern that online threats could lead to action<sup>56</sup>.

In MENA, reports suggest that TFGBV is commonly perpetrated by state actors toward WHRDs<sup>57</sup>, often drawing on social norms that approve of female oppression and which in turn reinforce and police misogyny<sup>58</sup>.

## Enabling Environment: Role of Technology Platforms and Legal Frameworks

Interviews with TFGBV experts revealed a universal disconnect between policies to redress TFGBV and their implementation. They attributed this disconnect to insufficient understanding of TFGBV among stakeholders responsible for enforcement, lack of tools adapted to address this problem, and self-interest among some stakeholders who may be incentivized to silence survivors rather than safeguard them. One frequent criticism of tech-focused responses to the issue, including monitoring and reporting mechanisms on platforms, is that these responses often fail to take into account the broader context in which technology is used, creating potential unintended social and ethical harms<sup>59</sup>. Online abuse techniques often include aspects like coded language or imagery to avoid triggering automated detection. This requires situational knowledge to understand, detect, and

flag; but because women are under-represented in the tech sector, comprising only 27% of computing roles<sup>60</sup>, such knowledge does not get integrated into TFGBV mitigation policies<sup>61</sup>. This is just one such example of how tech platforms have become an enabling environment for TFGBV despite attempts to limit online abuse.

These policy and implementation failures both compound and are compounded by technology gender gaps. Exposure to TFGBV is linked to the technology landscape in a given country more broadly, such as mobile broadband connections, access to internet and mobile devices, affordability of data, digital divides related to gender, age, rural/urban residence, etc. Indeed, data shows that in geographies where internet penetration rates are high and gender digital divides are small, rates of TFGBV are almost double rates of traditional forms of GBV, like intimate partner violence (IPV)<sup>62</sup>.

Furthermore, where gender digital divides are still substantial, they contribute to online and offline harms. For example, women across low- and middle- income countries are 7% less likely than men to own a mobile phone and 16% less likely to use mobile internet.<sup>63</sup> “This gender gap is particularly acute for certain groups of women, including those who have low literacy levels, are unemployed, have low incomes, are older than 55, live in a rural area or have a disability.”<sup>64</sup> Safety and security concerns, including fear of receiving unwanted contact from strangers and being exposed to harmful content, are significant barriers to women’s use of mobile internet; in Latin America, safety and security concerns were more common barriers than literacy and digital skills or affordability<sup>65</sup>.

54. Ruiz-Navarro, Catalina. (2016). *Political Violence is Directly Linked to Online Harassment*. <https://womensmediacenter.com/speech-project/political-violence-directly-linked-online-harassment-catalina-ruiz-navarro>

55. Wilson Center. (n.d.) *Explore the Data*. <https://gbv.wilsoncenter.org/explore-gbv-data>

56. Cruz-Ororio, Jose and Sebastián Essayag. (2021). *A Multidimensional Approach to Address Violence Against Women and Girls and Femicide/Feminicide in Latin America and the Caribbean*. <https://www.undp.org/latin-america/blog/multidimensional-approach-address-violence-against-women-and-girls-and-femicide/femicide-latin-america-and-caribbean>

57. Amnesty International. (2018). *MENA: Activists defiant in face of repressive crackdowns*. <https://www.amnesty.org/en/latest/press-release/2018/12/mena-women-activists-defiant-in-face-of-repressive-crackdowns/>

58. ICNL. (2023). *Online Gender-Based Violence: And Its Impact on The Civic Freedoms of Women Human Rights Defenders in the Indo-Pacific*. <https://www.icnl.org/wp-content/uploads/Online-Gender-Based-Violence-report-final.pdf>

59. Crellinstine, Ronald. (2022). *Gender-Based Violence Is Built into Our Laws, Minds, Culture, and Media*. <https://www.cigionline.org/articles/gender-based-violence-is-built-into-our-laws-minds-cultures-and-media/>

60. White, S. (2023). *Women in tech statistics: The hard truths of an uphill battle*. <https://www.cio.com/article/201905/women-in-tech-statistics-the-hard-truths-of-an-uphill-battle.html>

61. Crellinstine, Ronald. (2022). *Gender-Based Violence Is Built into Our Laws, Minds, Culture, and Media*. <https://www.cigionline.org/articles/gender-based-violence-is-built-into-our-laws-minds-cultures-and-media/>

62. UN Report. (2021). *Technology-facilitated Gender-based Violence: Making All Spaces Safe*. <https://www.unfpa.org/sites/default/files/pub-pdf/UNFPA-TFGBV-Making%20All%20Spaces%20Safe.pdf>

63. GSMA. (2022). *The Mobile Gender Gap Report 2022*. [https://www.gsma.com/r/wp-content/uploads/2022/06/The-Mobile-Gender-Gap-Report-2022.pdf?utm\\_source=website&utm\\_medium=download-button&utm\\_campaign=gender-gap-2022](https://www.gsma.com/r/wp-content/uploads/2022/06/The-Mobile-Gender-Gap-Report-2022.pdf?utm_source=website&utm_medium=download-button&utm_campaign=gender-gap-2022)

64. Ibid.

65. Ibid.

## Human Problem, Propelled by Technology

Rates of violence against women and traditional gender-based violence, without complex statistical analysis, appear to be correlated with rates of TFGBV<sup>66,67</sup>. In other words, the more GBV women and girls experience in any given context, the more likely that context is to harbor high levels of TFGBV. Misogyny, sexist gender stereotypes, and norms about women's "place" not only translate – they proliferate and thrive on digital platforms for a variety of reasons. Lack of perpetrator accountability, perceived anonymity, potential for large scale trolling, as well as algorithmic preferences for "high engagement" content built into social media business models mean that scandalous, emotionally charged attacks achieve enormous reach<sup>68</sup>. Gendered disinformation has come up as a widely used method to silence WIPPL and it is utilized against individual women, as well as to shape narratives that further normalize violence in societies<sup>69</sup>. In a report on the Indo-Pacific, WHRD reported that reporting abuse to social media platforms rarely resulted in satisfactory responses.<sup>70</sup> Further, the anonymity frequently afforded by social media platforms allowed perpetrators to evade legal action.<sup>71</sup>

## TFGBV Not Seen as Everyone's Responsibility

Interviews with TFGBV experts and the global mapping of organizations engaged in addressing TFGBV revealed that women battle alone, for the most part, to prevent, mitigate, protect, and otherwise address TFGBV. The mapping exercise of local and regional organizations and networks identified over 200 organizations currently working to address TFGBV or related topics. Of these, nearly two-thirds work from the perspective

of women's rights and individual behavior: supporting their safe political participation, training them in online safety, providing legal support for instances of GBV and TFGBV, and related areas of work. Fewer than one fourth explicitly mentioned working with or prioritizing the issues of marginalized populations particularly at risk of harms from online violence, such as young girls, LGBTQI+ persons, persons with disabilities, indigenous women, or refugees. Fewer than ten percent explicitly mentioned working with men to address TFGBV, VAWPP, or even to support women's political participation. Fewer than ten percent work to address this issue from the perspective of technology or civic tech. These numbers highlight the fundamental mismatch between the threat of TFGBV and the response, even from civil society.

Most organizations working on TFGBV are led by women, working with women—meaning that the burden of response is falling on those who are most commonly the targets of the threat, without the support or input of powerful stakeholders like male politicians or tech organizations, who contribute to systemic impunity for the perpetration of TFGBV. Women working against TFGBV, whether individually or through organizations, reported in the Transform co-creation event and in other public forums significant burnout as a result of the lack of support in the face of the intensity of the problem. Indeed, a recent UN Human Rights Council panel stated that women and girls are 27 times more likely to be harassed online than men<sup>72</sup>. Furthermore, data reinforces the finding that men need to be engaged to achieve the behavior and attitude change necessary for progress in mitigating TFGBV—studies on attitudes towards TFGBV have shown that men, and especially young men, often believe that offensive content online is taken too seriously<sup>73</sup>. Tech actors—including civic tech groups—need to be engaged too. Many TFGBV experts point out policies supported by civic tech which remove

66. Sardinha, Lynnmarie, et al. (2018). *Global, regional, and national prevalence estimates of physical or sexual, or both, intimate partner violence against women in 2018*. The Lancet 399.10327 (2022): 803-813.

67. The Economist Intelligence Unit. (2021). *Measuring the prevalence of online violence against women*. <https://onlineviolencewomen.eiu.com/>

68. UN Report. (2021). *Technology-facilitated Gender-based Violence: Making All Spaces Safe*. <https://www.unfpa.org/sites/default/files/pub-pdf/UNFPA-TFGBV-Making%20All%20Spaces%20Safe.pdf>

69. State Department. (2023). *Gendered Disinformation: Tactics, Themes, and Trends by Foreign Malign Actors*. <https://www.state.gov/gendered-disinformation-tactics-themes-and-trends-by-foreign-malign-actors/>

70. ICNL. (2023). *Online Gender-Based Violence: And Its Impact on The Civic Freedoms of Women Human Rights Defenders in the Indo-Pacific*. <https://www.icnl.org/wp-content/uploads/Online-Gender-Based-Violence-report-final.pdf>

71. Ibid.

72. Human Rights Council. (2018). *Human Rights Council holds Panel discussion on online violence against women human rights defenders*. <https://www.ohchr.org/en/press-releases/2018/06/human-rights-council-holds-panel-discussion-online-violence-against-women>

73. M. Duggan. (2017). *Online Harassment 2017*. <https://www.pewresearch.org/internet/2017/07/11/online-harassment-2017/>

offensive content from the internet without consideration for victims' agency online. For example, suspending victims' accounts when their content is the subject of abuse, instead of tracking down the perpetrators of abusive material and holding them to account<sup>74</sup>. Indeed, a worrisome blind spot in many tech-based responses to declining digital democracy is that they often fail to consider the intersection of gender equality, democracy, and peace and security.<sup>75</sup>

Without these players—and their resources and platforms—it will be extremely difficult for those currently working on this issue to meaningfully move the needle.

## Closing space for Civil Society Worldwide

A host of legislation targeting civil society organizations (CSOs) and Non-Governmental Organizations (NGOs) collaborating with international organizations complicate and jeopardize the ability of implementing organizations

working on TFGBV to engage with local partners in an increasing number of countries. Recent high-profile cases in El Salvador<sup>76</sup> and Georgia<sup>77</sup> are just two of several such examples. New restrictive legislation or the abuse of existing legislation to serve those in power is on the uptake, including money laundering laws, foreign agent laws, and more. This targeting of CSOs and NGOs is in concert with the well-documented pattern of rising populism and authoritarianism globally<sup>78</sup>. Experts engaged in conversation highlighted that these restrictions impact technical areas of anti-TFGBV and support to WIPPL, which are increasingly being politicized and targeted by anti-democratic regimes. Indeed, “traditional values” narratives about the place of women in public life are often used to advance political agendas and become the lightning rod for “culture wars”<sup>79</sup>. As hostile regimes use the information space to advance their own anti-democratic agendas, it becomes more difficult to engage meaningfully with them on policies relevant to efforts to mitigate TFGBV, such as digital platform content monitoring, regulation, and protections.

74. UN Populations Fund. (2021). *Technology-facilitated Gender-based Violence: Making All Spaces Safe*. <https://www.unfpa.org/publications/technology-facilitated-gender-based-violence-making-all-spaces-safe>

75. Dharmapuri, Sahana, and Jolynn Shoemaker. (nd). *Gender Equality Is Central to Technology and Democracy*. <https://foreignpolicy.com/sponsored/gender-equality-is-central-to-technology-and-democracy/>

76. Protect Defenders. (2022). *El Salvador – Attacks on civil society and journalists*. <https://protectdefenders.eu/el-salvador-attacks-on-civil-society-and-journalists/>

77. Kirby, Paul. (2023). *Georgia drops 'foreign agents' law after protests*. <https://www.bbc.com/news/world-europe-64899041>

78. Freedom House. (2023). *Freedom in the World 2023: Marking 50 Years in the Struggle for Democracy*. <https://freedomhouse.org/report/freedom-world/2023/marking-50-years>

79. Di Meco, Lucina. (2023). *Monetizing Misogyny: Gendered Disinformation and the Undermining of Women's Rights and Democracy Globally*. [https://she-persisted.org/wp-content/uploads/2023/02/ShePersisted\\_MonetizingMisogyny.pdf](https://she-persisted.org/wp-content/uploads/2023/02/ShePersisted_MonetizingMisogyny.pdf)

# Implications for TFGBV Programs

Based on these findings, Transform identified several implications for the design and implementation of international initiatives and programs to address TFGBV against WIPPL.



### Address human behavior:

TFGBV is a human problem that requires human-centered solutions. However, those who profit from keeping women silent and withdrawn from public life are hard to engage and are difficult targets for behavior change. Engaging with tech platforms may also be challenging—many have wired toxic engagement into their business models and are resistant to attempts at regulation. TFGBV initiatives should take a long-term approach to impact by increasing the number of women in tech leadership and design positions, as well as increasing the awareness of men currently occupying the majority of those positions<sup>80</sup> to the dangers of the current situation, not only for women, but for society at large. TFGBV programs will need to identify and use levers that motivate them, including economic outcomes. Where feasible, TFGBV programs can help to strengthen the capacity and networks of CSOs and other local partners to work with Civic Tech organizations and private technology companies to identify and inform possible technological solutions.



### Center survivors:

TFGBV programs should be leveraged to improve services to better meet survivor

needs and to strengthen prevention efforts on digital platforms, within educational and political institutions, and as part of vibrant social justice movements. Learning activities should work to identify survivor-centered strategies to mitigate these harms at the individual and community level.



### Support vulnerable individuals and organizations:

TFGBV programs should consider identifying mechanisms and funds within the program budget to allocate to rapid legal advice, defense, and protection of individuals and organizations collaborating with the program in closing contexts.



### Incorporate diverse contributors in program design:

TFGBV programs should partner with diverse survivors, service providers, policymakers, “hacktivists”, private sector tech platforms and key influencers to raise awareness of the toll TFGBV takes on women and gender diverse individuals and of how this relates to healthy civic spaces and thriving democracies, and to brainstorm and implement targeted solutions.

80. S. White. (2023). *Women in tech statistics: The hard truths of an uphill battle*. <https://www.cio.com/article/201905/women-in-tech-statistics-the-hard-truths-of-an-uphill-battle.html>





### Engage broad coalitions:

TFGBV programs should include attention to Civic Tech organizations and private technology companies, which are predominantly run by men. TFGBV initiatives may facilitate deliberate outreach to people of all genders engaged in Civic Tech activities and human rights CSOs through program activities, including the possibility of joint activities between organizations focused primarily on TFGBV and Civic Tech organizations. TFGBV programs should emphasize that ending TFGBV is everyone's responsibility.



### Strengthen accountability:

TFGBV programs should partner with CSOs, service providers, civic tech organizations, private technology companies, social media platforms, "hacktivists", and key influencers to assess the digital needs of WIPPL, identify existing digital tools, and develop new digital tools to facilitate accountability for TFGBV by, illustratively, tracking the origins and distribution of harmful content and helping to build a record for potential legal action or other responses. Program activities should be leveraged to support advocacy for and development of appropriate legislative and policy change at the national level where possible and feasible. For example, this could include advocacy and coordination with relevant stakeholders to: update existing policies and legislation related to political processes and GBV to improve accountability for online violence, including that which targets WIPPL; make available resources to regulatory bodies/agencies to implement and enforce these policies and legislation; and call on political parties, executive management boards, and other stakeholders to take interim and complementary voluntary measures to hold themselves accountable. These efforts can and should be undertaken simultaneously, where feasible given the country context.



### Build collective knowledge:

TFGBV programs should partner with diverse researchers and practitioners in Global Majority countries to refine learning questions and program activities related to the evidence gaps noted above. International programs should share learning and data collected through convenings in Global Majority countries as well as more broadly through public dissemination and participation in public forums. Given Transform's focus on strengthening the global evidence base for contextualized approaches to monitor and address TFGBV, the program may consider piloting the development of tools or frameworks to document TFGBV and its impacts in pilot locations.



### Understand local nuances:

Gender and Social Inclusion assessments should include focus on national and subnational nuances related to technology, legislation, and policy as they affect prevention of and response to TFGBV. TFGBV program learning activities should be linked to applied research that addresses what is currently missing and what can be used to advocate for shifts in elements of the environment that will result in real change in how WIPPL experience digital spaces.

# Conclusion

**T**he reports on the impacts of TFGBV are troubling, showing that women and girls, in all their diversity, are likely to decrease their level of participation in online spaces after experiencing the impacts of this threat. TFGBV “stifles conversations and advocacy about equality and dissuades women from taking up leadership positions.”<sup>81</sup> Also troubling are the gaps in our knowledge

about the extent and impact of TFGBV in specific local and national contexts and against women and girls who experience intersecting oppressions. Transform will contribute to our knowledge of TFGBV through its country-specific analyses, capacity building activities, and evaluation of the innovation grants program.

81. Dunn, Suzie. (2020). *Technology-Facilitated Gender-Based Violence: An Overview*. [https://www.cigionline.org/static/documents/documents/SaferInternet\\_Paper%20no%201\\_0.pdf](https://www.cigionline.org/static/documents/documents/SaferInternet_Paper%20no%201_0.pdf)