Empowering Change: Unveiling the Synergy of Feminist Perspectives and AI Tools in addressing Domestic Violence

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Abstract: Gender-based violence remains a widespread issue in our societies. Women who are victims-survivors often encounter significant barriers when seeking support services, and frontline responders frequently lack the necessary skills and capacities to provide an adequate response. In this context, artificial intelligence (AI), particularly through the use and development of chatbots, has emerged as a potential solution to enhance and simplify access to these services for women. This is where the European project IMPROVE (Improving Access to Services for Victims of Domestic Violence by Accelerating Change in Frontline Responder Organisations) comes into play. Using a qualitative methodology, this study captures the voices of victim-survivors, exploring their views on the use of AI tools in the context of domestic violence, while also comparing these perspectives with the general societal perception of chatbots as reflected in media coverage.

Introduction

In recent years, there has been a growing recognition of the role that Artificial Intelligence (AI) and digital technologies can play in addressing gender-based violence (GBV), particularly in the domain of domestic violence (Rodriguez et al., 2021; Kouzani, 2023). The intersection between AI tools and feminist perspectives offers a unique opportunity to both enhance the detection and prevention of domestic violence, as well as to critically assess the potential risks these technologies pose. Since the advent of AI in the mid-20th century, its exponential development and growing role in contemporary society have prompted thorough analyses of its attributes, ethical implications, and potential impact on human rights. One of the most critical aspects of AI, particularly relevant to fundamental rights and vulnerable groups, is the presence of biases. These biases can either perpetuate and exacerbate existing inequalities or introduce new forms of bias based on the discipline's construction and data processing methods. Feminist critiques of AI have underscored the need to address biases in algorithmic systems and to develop tools that are sensitive to the lived experiences of marginalized groups, particularly women (Eckstein & Danbury, 2020; PenzeyMoog & Slakoff, 2021). This paper explores the potential for AI-based tools, particularly chatbots, to support women experiencing domestic violence while integrating critical feminist insights to minimize the risks of exacerbating existing power dynamics.

The significance of this study lies in its focus on the practical and ethical applications of AI in the context of domestic violence. As the IMPROVE project (Improving Access to Services for Victims of Domestic Violence by Accelerating Change in Frontline Responder Organisations) demonstrates, there is a pressing need to create digital tools that offer tangible support to victims while avoiding the reinforcement of harmful societal norms (Novitzky et al., 2023). AI technologies, including chatbots and predictive algorithms, have been increasingly integrated into systems aimed at detecting and preventing domestic violence, yet their application has often lacked a critical gender lens (Ledesma, 2022). This gap underscores the necessity of aligning technological innovations with feminist frameworks to ensure that they do not inadvertently contribute to the reinforcement of patriarchal structures (Al-Alosi, 2020).

While there are several studies that explore the role of AI in addressing violence against women, the literature often approaches the issue from either a security or public health perspective, with minimal focus on feminist epistemologies (Nowitzki et al., 2023). This paper aims to address this gap by critically examining the use of AI tools, specifically chatbots, within a feminist framework. We focus on how these tools can be refined to better meet the needs of women, particularly in terms of prevention, detection, and support. Drawing on the literature, this study emphasizes the importance of addressing biases in AI systems and ensuring that they are designed to empower rather than disempower women.

The use of conversational agents or chatbots to support gender-based violence victims and front-line workers

Rodriguez et al. (2021) explicitly identify AI as a key tool in addressing GBV, classifying its contributions into four categories: offline detection, education, security, and online detection. Notably, more than half of the studies reviewed by Rodriguez et al. (50.7%) focus on the online detection of violent content, reflecting the importance of AI in monitoring harmful behaviors, such as misogyny, sexism, grooming, and peer violence. This approach aligns with the concept of "symbolic violence," as analyzed by Ledesma (2022), who argues that AI, through its inherent biases, can reinforce existing structural inequalities. Symbolic violence refers to a structural situation in which unequal power relationships are maintained through explicit or implicit cultural norms, which, in turn, consolidate the status quo (Ledesma, 2022). Ledesma further asserts that AI systems contribute to the perpetuation of this violence by embedding biases that disproportionately affect marginalized groups, particularly women and girls.

Belen Saglam et al.'s (2021) work provides a valuable foundation for designing chatbots to support domestic violence victims, emphasizing empathy, security, privacy, and the provision of practical information and emotional support. These tools can significantly reduce barriers to accessing support services and encourage victims to report abuse, provided they are carefully designed to meet victims' specific needs and ensure their safety.

Designing such tools requires prioritizing safety from the outset. Careful planning of conversational flows is essential to ensure that interactions are sensitive and appropriate. Advising individuals experiencing abuse on how to seek safety is a critical responsibility, requiring detailed attention and collaboration from multidisciplinary actors, including the victims themselves.

Another significant challenge is the "humanization" of these tools. Alan Turing's famous test evaluated whether a machine could "pass" as human, but this test is more complex than it appears. Passing as human involves considerations of race, gender, and social class. Chatbots are judged not only on their ability to use natural language patterns but also on factors such as friendliness and empathy, which are influenced by racial and gendered expectations. Users project racial and gender identities onto these conversational agents through visual, textual, and auditory cues. Therefore, as Hussain and Spencer (2024) argue, limiting the use of chatbots without human follow-up is problematic, as user assumptions about the chatbot's identity affect their communication and responses. Thus, the question of AI and chatbots is not just about replicating human intelligence but also about understanding the racial and gender dynamics inherent in these technologies.

As Sasha Constanza-Chock (2018) points out, design principles that adopt a universalist approach often exclude certain groups, particularly those facing intersectional disadvantages under systems like capitalism, white supremacy, heteropatriarchy, and settler colonialism. When technologists address inequality in design (which is rare in most professional design processes), they typically do so through a single-axis framework (Constanza-Chock, 2018:7). As a result, contemporary design processes are structured in ways that fail to account for or remediate the unequal distribution of benefits and burdens. This aligns with Kimberlé Crenshaw's argument that feminist or anti-racist theory and policy that do not adopt an intersectional understanding of gender and race cannot adequately address the experiences of Black women and other people facing multiple forms of oppression (Crenshaw, 1989). This principle should also apply to the "design demands" for AI systems, including technical standards, training data, benchmarks, and bias audits.

Given these limitations, it is necessary to incorporate feminist perspectives into the design and application of AI tools. Feminist AI (FAI) shows how "feminism" and "AI" have multiple meanings. As Sophie Toupin rightly notes, despite the singular term, FAI encompasses diverse contemporary manifestations of feminism, including intersectional, Black, decolonial, and liberal feminist approaches. Haraway's concept of situated knowledge was groundbreaking in highlighting that knowledge production is embedded in social relations and that perspectives from marginalized positions offer the most objective accounts of the social world. Drawing on these ideas, computer scientist Alison Adam began to critique AI from a feminist perspective, exposing its conservative foundations and raising questions about how AI is used, what knowledge it represents, and what kinds of knowledge are utilized in these systems.

The following section reviews several AI-driven chatbots that have been designed to address GBV, highlighting their strengths, limitations, and the feminist critiques that shape their implementation.

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Table 1: Taxonomy of GBV chatbots

CHATBOT	MAIN FUNCTION	ADVANTAGES	LIMITATIONS
Sophia[1]	Assist women victims of domestic violence	Uses AI to provide support and also to securely store any evidence of abuse submitted by victims.	Designed for domestic violence victims and may struggle to provide tailored legal advice across different jurisdictions due to its international scope.
Hello Cass [2]	Provide information and support on GBV via SMS.	Simplicity and accessibility with minimal technological requirements.	Reliance on SMS technology; limited in areas with poor network coverage.
MySis[3]	Emotional support and practical guidance for legal procedures.	Detailed support on emergency services, legal guidance, and protection.	Automated responses limit personalization; focused only on Thailand.
Law-U	Legal guidance for survivors of sexual violence in Thailand.	Accuracy based on Thai Supreme Court cases; LINE platform integration.	Lack of human interaction; reliance ONLINE limits accessibility.
Violetta[4]	Preventive and psychoeducational support for Spanish-speaking women.	Personalized responses supported by psychologists detects high-risk words.	Reliance on technology; lack of human intervention in critical cases.

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Themis[5]	Free legal advice with a gender perspective.	Handles multiple requests; psychological support; generates policy data.	Exclusive to Facebook; inaccessible without internet or social media.
Sara[6]	Assistance in six Caribbean countries for women and adolescents.	Adapts responses to cultural and linguistic contexts.	Limited by technology access and understanding of complex interactions.
rAInbow	Inform victims about abuse signs through stories and quizzes in South Africa.	Real-time data training; considers LGBTQ+ needs.	Geographically limited focus; does not address all victim diversity.
Agile	Improves Access to Information and Services	Immediate, anonymous, and confidential access; aimed at adolescents, young women, and sexual and gender minorities; Reduces traditional barriers to care; Utilizes a user-centered approach; Chatbot availability (24/7)	Effectiveness depends on access to technology; Excludes individuals with limited resources; May not capture the nuances and complexities of each situation; Lack of direct human interaction; Privacy and security concerns over collected data
NajatBot	Guidance for Women and Girls Victims of Violence	Accessible for free through Messenger on Facebook; Developed in the Moroccan dialect; Includes a persistent menu and quick responses	Use of predefined sentences; Initial development phase; Lack of direct human interaction; Costly and labor-intensive maintenance

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AinoAid[7]	Assistance and Support to Victims of Gender Violence; Offers Information on Available Services	Immediate and anonymous access to useful information and support services Advanced technology in AI, Machine Learning, and Natural Language Processing	Need to interact with human professionals for more detailed and personalized follow-up Privacy and security concerns over collected data Costly and labor-intensive maintenance

[1]Sophia a Chatbot Tool to Empower Victims of Domestic Violence, Jun. 2020, [online] Available: https://www.kona-club.com/sophia.
[2]https://hellocass.com.au/
[3]https://changefusion.org/initiatives/11kdhvc0ebab7mgr9d85rviwj9axan
[4]https://holasoyvioletta.com/
[5]https://www.facebook.com/pg/AbogadasVioletas/posts/?ref=page_internal
[6]https://infosegura.org/en/news/sara-new-artificial-intelligence-tool-tackle-gender-violence-central-america
[7]https://ainoaid.fi/

The European IMPROVE project and the development of the chatbot AinoAid™: Innovating Support for Victims of Domestic Violence

IMPROVE, funded under Horizon Europe, is grounded in evidence showing that many survivors of GBV are unaware of their rights and available services, leading to low reporting rates and limited help-seeking behavior. Studies, such as Simmons et al. (2011), highlight that most women in abusive relationships do not engage with formal support systems like shelters or hotlines. Additionally, marginalized groups, such as those in remote areas or stigmatized communities, are less studied due to challenges in identifying and accessing them. Frontline responder organizations also struggle to detect diverse victims and coordinate between agencies, despite the availability of training and guidelines. Vulnerable populations, including refugees, the elderly, minorities, and people with disabilities, are often under-detected and underserved, lacking equal access to services and justice. The project aims to empower these victims by raising awareness of their rights and available resources.

In this sense, the AinoAid™ chatbot aims to enhance access to services for victims of domestic violence by addressing both the needs of survivors and the challenges faced by frontline responders. IMPROVE's overarching goals include increasing reporting of domestic violence cases, improving service accessibility for underserved victims, accelerating policy implementation, and fostering inter-agency cooperation through targeted training. The project focuses on marginalized groups, such as refugees, the elderly, and individuals with disabilities, ensuring that all victims have equal access to justice and services.

AinoAid™ specifically uses conversational AI to help survivors navigate available services by offering assessments, guidance, and emotional support. The chatbot addresses barriers to reporting, such as anonymity concerns and fears of judgment. Drawing on prior technological innovations, such as Rainbow and Hello Cass, AinoAid™ directs victims to nearby service providers and community justice initiatives. The chatbot incorporates a validated risk assessment questionnaire and offers tools for victims to document experiences securely.

The design of AinoAid™ is centered on user experiences, with conversations based on real-world interactions and professional expertise in gender-based violence (GBV). It is continuously updated through user interaction and collaboration with local organizations, ensuring its relevance and accuracy. The chatbot is designed to provide empathetic, reliable support while maintaining user privacy and data security.

However, the project also faces challenges. Ensuring data accuracy, avoiding biases in input data, and protecting user privacy are critical concerns. Additionally, steps are taken to prevent potential misuse of the chatbot by perpetrators pretending to be victims. AinoAid™ aims to mitigate these risks through robust data security measures, careful supervision of AI training, and a phased rollout with extensive testing to ensure effective functionality. The chatbot operates anonymously, without requiring user registration, enhancing its accessibility and safety.

Methodology

This paper adopts a qualitative methodology. In addition to a review of the existing literature on the development of chatbots for the prevention of GBV from a critical perspective, this work seeks to contrast the official discourse on the potential of these technological tools for the prevention and support of past victims of GBV with the victims' real perception of their usefulness.

Narrative interviews

Within the framework of the IMPROVE project, narrative interviews to survivors of GBV were conducted in five different countries: Austria, Finland, France, Germany, and Spain. However, for the purpose of this study, only the Spanish interviews have been taken into consideration.

The research followed a multi-stage process. Initially, a detailed mapping of associations and organisations supporting GBV survivors was conducted. Purposeful sampling was used to select participants, with priority given to organisations with whom the researchers had established relationships, particularly those working with vulnerable groups. The participant selection and interview organisation process was led by the psychologists or the social workers of the services to acknowledge their knowledge of the cases and build the participant's confidence.

Secondly, an interview script was elaborated based on a previous literature review that helped to identify the relevant dimensions and aspects that the interview should address. In total, 30 interviews involving women from various backgrounds, including elderly and migrant/refugee participants were developed in the Basque Country, Cantabria, Castile and Leon, and Madrid. Of these, 15 were conducted one-on-one (interviewer and interviewee), 2 involved the presence of a shelter social worker (one guided by two researchers, one of whom had extensive knowledge of the interviewee's culture of origin), and 4 were held in a group setting with 2 to 4 participants and 2 researchers. This information is collected in Appendix 1.

In the final phase, in-depth interviews adhered to WHO (2001) guidelines to ensure participant anonymity and safety. These safeguards included providing safe spaces, using intermediaries when necessary, and ensuring strict data protection. The research followed ethical standards on Gender, Ethical, Legal, and Societal aspects (GELSA) as required by the European Commission and approved by the University of Deusto's Ethical Committee.

News search

Secondly, in order to analyze the general social perception of chatbots and specifically of AinoAid, a news search was carried out in different media.

At first, we considered conducting a general search across various written media to analyze the general perception of chatbots and their use in the field of GBV. However, initial experiments showed a lack of specific news related to this issue, so authors decided to limit the analysis to press articles focused on the chatbot developed in IMPROVE: AinoAid. A total of 40 articles in Spanish and 2 in Finnish covering the launch of AinoAid were identified. Due to language limitations, only the articles published in Spanish were included in the analysis. These 40 articles (see Table 2)

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were analyzed to identify: (1) Interviewed/involved agents; (2) Evaluation of the chatbot; and, (3) Highlighted limitations (if any).

The objective of this dual approach is primarily to contrast public perception with that of the victims themselves, to determine the real usefulness of these tools from the situated experience of the main users of the tool: women victims of GBV. This approach aligns with the situated knowledge of feminist epistemologies (Cabrera et al., 2020). As these authors note, as early as the 1970s and 1980s, the need for an alternative sociology to the androcentric approach was identified (Smith, 1979, 1987), developing a method from the perspective of women, pointing out the "bifurcated consciousness" between abstract sociological analysis and women's everyday life. Smith's (1979) proposal was consolidated with Nancy Hartsock's (1983) formulation of Feminist Standpoint Theory (FST), based on Marxist epistemology. This theory advocates for the need for critical awareness of the relationship between knowledge production and power, proposing that feminist research begin from 'the lives of women' (Del Moral Espín, 2012). According to Kristen Intemann (2010), FST is based on two main arguments: situated knowledge and epistemological privilege. For this reason, analyzing the usefulness of these types of tools from the experience of women is not only convenient but necessary.

Moreover, the relevance of feminist approaches is justified by the importance of the role played by new technologies in the so-called 'Fourth Wave of Feminism.' The Fourth Wave, emerging in the early 21st century, is characterized by the use of the internet and social media to spread feminist messages, revitalizing the movement (Looft, 2017; Chamberlain, 2017). Key elements include technological mobilization, intersectionality, empowerment, social activism, and the denunciation of sexual violence (Cochrane, 2013; Looft, 2017; Parry et al., 2018; Shiva et al., 2019). However, it also faces the risk of trivialization through feminist marketing and celebrity involvement (Looft, 2017). This wave embodies the tension between growing dissent and significant social and political impact (Kaba et al., 2014).

Results

This section of the paper presents some of the results obtained, linking the study's main objective with the methodology employed and highlighting the key findings from the narratives and the news search.
Attitudes of Interviewees in regard to an AI Chatbot providing help to Victims of DV
Positive thoughts
A large proportion of the interviewees expressed a positive attitude towards using a chatbot as a first place to find information and guidance when experiencing gender-based violence. Most interviewees saw it as a positive option, which they would use if it was anonymous. This issue was regularly emphasized. However, the widespread lack of experiences with chatbots led them, on many occasions, to prefer a human being to answer their questions and concerns. In any case, most interviewees believe it is a positive tool they may use if anonymous, this issue is emphasized.
Advantages of the chatbot were seen in its availability for use at anytime and anywhere. Also, the instantaneous availability of answers, and the fact that a machine would not express moral judgements.

"A virtual assistant seems to me to give you the anonymity of being able to contact from the living room of your home, and without embarrassment of having your face seen".

It is important that the AI is able to recognize that what is happening is not normal or right. Interviewees considered the chatbot as an initial aid for asking for help, and where help is available, especially for those who do not have social support. They consider that after this first information the chatbot must lead you to a human agent.

Some find it accessible and useful mostly for the youngest, particularly good for the ones who seem to find calling more difficult than chatting. Regarding the question of texting with or talking to the chatbot, there is wide agreement that talking could be more useful than writing ("when I was feeling so bad, I couldn't write") but this would largely depend on the context. When under emotional stress, it seems to be easier for some women to speak than to chat. Nonetheless, most interviewees would prefer to write rather than speak, as it is perceived to be more discreet – no one can listen and it can be used at public places, e.g., in the subway. Also written information could easily be translated on the phone.

As to the voice of the chatbot, while some interviewees had no preference for the chatbot's voice, whether masculine or feminine, others preferred a female voice. It ought to be soft, calm, gentle, friendly, empathetic, and have a neutral accent or be spoken with the accent of the victim's nationality.

Concerns

Despite the mentioned advantages, the majority identifies a chatbot on GBV as cold, with a lack of closeness. They consider that reading or listening to automatic information does not help as a human person could with a personalized response on this matter. For this reason, they stress the importance of having human agents to whom they can refer after a first AI response.

The topic of lacking trust in the technology and its safety has been repeatedly mentioned by interview partners. A few interviewees would not use the chatbot, due to doubts about whom they would be talking to and who could read or listen to what they express. Some migrant interviewees mentioned the fear of the police being able to listen to the conversation. They would be afraid of sharing personal data.

Interviewees raised doubts whether the chatbot would be anonymous which is related to the high threshold to write anything. There might be a risk that confidential conversations are transcribed, when chatting on the computer and cell phone. Thus, the chatbot should not be implemented on WhatsApp as most women are afraid of someone taking control over their cell phones. In general, the fear of being found out in their search for information on help is terrifying DV victim-survivors as they have to think of every detail that could put them into danger.
Further important critical points mentioned were the chatbot usability for persons who do not speak the chatbot's language well and for persons who are exposed to extreme control by their (ex-)partner.

Interviewees experiences with chatbots

Almost all interviewees currently use the internet. However, there are examples of older people who said they do not use the internet or do not use computers due to physical impairments. Most of the interviewees have used any other chatbots. The few that have used chatbots rate automated and non-personalized responses negatively.

"I don't like talking to machines."

In any case, the interviewees expressed their enthusiasm at being able to use a chatbot on DV matters confidentially and safely. They said they were ready to take part in testing its implementation.

Interviewees expectations and wishes in regard to a chatbot

The interviewees emphasized that AI should be geared toward personalization and empathy in response. The chatbot's communication should be calm and collected, and helpful. When contacting the service, the DV victim-survivors often feels ashamed of her own situation. It would be nice to have the chatbot say something like, "I believe you. Don't worry, I believe you and we will do something about it."

"That chat that gives you a personalization, gives you an importance."

"Not showing that it's a robot, because a gender-based violence victim expects a human response that understands their feelings."

The chatbot would be particularly useful if it solved doubts, helped identifying victims, especially those about which there is less awareness (psychological and vicarious violence), assessed on procedures and offered specific information about the violence itself, available services and aid. Information that can be read, information what is e.g., stalking or sexual violence was considered as helpful by the interviewees. The chatbot could offer self-identification tests, knowledge (books, evidence-based information about GVB) and audio-visual resources (videos, series, films) that can help raise awareness about the situation of violence experienced. The chatbot could also offer the possibility of listening to the testimony of other women survivors of every type of violence. The chatbot could be used to advise on what to do at any given moment, with an immediate response. Hence, it should be able to evaluate a person's situation and give guidance about different forms of DV and local services in the area where one lives. It is important to recognize the right risks, to recognize the situation and, when it is necessary, to refer the person to the help offered by the real person.

It would need to be anonymous though having the option to speak to someone by camera if wanted and use sentences that encourage the person. It would be useful if it could be used by another person who can transmit the information to the victim. Anonymity could also work for neighbors or the social network to report violence.

The chatbot should leave no trace and camouflage itself well on the mobile phone (it should look like a gaming app, requiring facial or fingerprint recognition to open it).

The chatbot should start with an open question, avoiding the concept of "violence" at the beginning, and gradually go deeper into the situation, with questions that engage and keep them engaged.

"Questions that get you into a circle in which, at the end, you realize that something strange is going on. Of course, the typical, 'hello, how are you, if you have suffered violence, how can it help you?' That's not going to help you at all".

According to the interviewees, the first contact with a chatbot should begin with an explanation of the nature and different types of violence. It might be very difficult for victim-survivors to put into words what they are experiencing with a violent partner. But this would be an essential step, and the presentation of a digital violence monitor or risk assessment that victims could fill in seemed a good way to start.

Chatbot interface should be clear, concise, and simple, without much color, visually pleasing, without too many buttons and screens.

Once the chatbot is up and running, it should be widely disseminated and advertised wherever people go like kindergartens, schools, health stations, and workplaces etc., but especially in feminized spaces. It should be advertised in a reliable place like on (DV) victim organizations' websites as well as on different channels of social media like Facebook, Instagram, SnapChat, Tik-Tok, and Jodel. It would be important to reach young people too. It is important to provide easy access to the chatbot via advertising. It is suggested to advertise via homepages of organizations as intensely as via posters and other types of non-digital messages. In addition, it should also be promoted in newspapers/journals and via stickers that stick everywhere (at bus stations, at train stations) so that potential users are informed that such options exist. The chatbot should be advertised "maybe in the waiting room and in ladies' toilets or even men's toilets". Also, schools (including language schools for migrants) could be utilized for promoting the chatbot. Access to these kinds of tools would be more effective if they were available in bars and other public places where people feel more protected than in the privacy of their own homes.

Analysis of Newspaper Articles

In analyzing the newspaper articles, a feminist epistemological approach was employed, focusing on the inclusion (or lack thereof) of female victims in the media's portrayal of chatbots for preventing gender-based violence. This analysis distinguishes between two dimensions: the role of women as "subjects" within the news, actively shaping the discourse, and as "objects," where their perspectives are largely overlooked or subordinated.

As abovementioned, 40 news articles were identified:

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Table 2: Media Coverage of AinoAid

MEDIA	TITLE	AUDIENCE	SOURCE
National Media "ABC"	La Policía Local de Valencia utilizará un robot para combatir la violencia machista	General public	https://www.abc.es/espana/comunidad-valenciana/policia-local-valencia-utilizara-robot-combatir-violencia-20220904165407-nt.html#amp_tf=De%20%251%24s&aoh=16623178642093&referrer=https%3A%2F%2Fwww.google.com&ampshare=https%3A%2F%2Fwww.abc.es%2Fespana%2Fcomunidad-valenciana%2Fpolicia-local-valencia-utilizara-robot-combatir-violencia-20220904165407-nt.html
Local Media "Valencia Extra"	Policia Local València treballa en un projecte per a augmentar la detecció de la violència de gènere i la protecció a les víctimes	General public	https://www.valenciaextra.com/valencia/policia-local-valencia-treballa-projecte-augmentar-deteccio-violencia-genere-proteccio-victimes_515020_102.html
Local Media "Actualitat Valenciana"	La Policía Local de Valencia forma parte del proyecto IMPROVE	General Public	https://actualitatvalenciana.com/policia-valencia-forma-parte-proyecto-improve/
Regional Media "Apunt Media"	Un robot conversacional multilingüe ajudarà víctimes de violència masclista a València	General Public	https://www.apuntmedia.es/noticies/societat/un-robot-conversacional-multilinguee-ajudara-victimes-violencia-masclista-valencia_1_1541271.html
Regional Media "El Meridiano"	Un robot conversacional multilingüe ayudará a víctimas de violencia machista	General Public	https://www.elmeridiano.es/un-robot-conversacional-multilingue-ayudara-a-victimas-de-violencia-machista/
Regional Media "El Levante"	La Policía Local participa en el diseño de un robot que detecta la violencia machista	General Public	https://www.levante-emv.com/valencia/2022/09/04/policia-local-participa-robotdetecta75005908.html?utm_source=whatsapp&utm_medium=social&utm_campaign=btn-share
National Media Cadena Ser	La Policía Local de València contará con un robot con inteligencia artificial para asesorar a las víctimas de violencia de género	General Public	https://cadenaser.com/comunitat-valenciana/2023/10/27/la-policia-local-de-valencia-desarrollara-un-robot-con-inteligencia-artificial-para-asesorar-a-las-victimas-de-violencia-de-genero-radio-valencia/
Regional Media Las Provincias	La Policía Local contará con un robot que hablará varios idiomas para atender a víctimas de violencia de género	General Public	https://www.lasprovincias.es/valencia-ciudad/policia-local-contara-robot-hablara-varios-idiomas-20231027234431-nt.html
Faro de Vigo	article in media	General public	https://www.farodevigo.es/sociedad/2024/02/28/programa-inteligencia-artificial-ayudara-lucha-98776418.amp.html
El Periódico	article in media	General public	https://www.elperiodico.com/es/sociedad/20240228/programa-inteligencia-artificial-ayudara-policia-lucha-violencia-genero-98768369
El periódico Mediterráneo	article in media	General public	https://www.elperiodicomediterraneo.com/sociedad/2024/02/28/programa-inteligencia-artificial-ayudara-lucha-98776422.html
Levante EMV	article in media	General public	https://www.levante-emv.com/sociedad/2024/02/28/programa-inteligencia-artificial-ayudara-lucha-98776423.html

El Periódico de España	article in media	General public	https://amp.epe.es/es/igualdad/20240228/programa-inteligencia-artificial-lucha-violencia-genero-98776417
El Diario de Mallorca	article in media	General public	https://www.diariodemallorca.es/sociedad/2024/02/28/programa-inteligencia-artificial-ayudara-lucha-98776414.html
La Provincia, diario de las Palmas	article in media	General public	https://www.laprovincia.es/sociedad/2024/02/28/programa-inteligencia-artificial-ayudara-lucha-98776421.html
La Nueva España	article in media	General public	https://www.lne.es/sociedad/2024/02/28/programa-inteligencia-artificial-ayudara-lucha-98776425.html
Diario de Ibiza	article in media	General public	https://www.diariodeibiza.es/sociedad/2024/02/28/programa-inteligencia-artificial-ayudara-lucha-98776415.html
El Día, la opinión de Tenerife	article in media	General public	https://www.eldia.es/sociedad/2024/02/28/programa-inteligencia-artificial-ayudara-lucha-98776424.html
Información	article in media	General public	https://www.informacion.es/sociedad/2024/02/28/programa-inteligencia-artificial-ayudara-lucha-98776416.html
El Periódico de Catalunya	article in media	General public	https://www.elperiodico.cat/ca/societat/20240302/ia-s-afegeix-lluita-violencia-98939204
Press reader, El periódico de Catalunya	article in media	General public	https://www.pressreader.com/spain/el-periodico-de-catalunya castellano/20240303/282016152279005
article on regional media Levante EMV	Inteligencia artificial y policía local contra violencia machista	General public	https://www.levante-emv.com/valencia/2024/04/08/inteligencia-artificial-policia-local-violencia-100750914.html
IMPROVE and Ainoaid press release	Europa Press	General Public, customers, Industry, media	Europapress link
IMPROVE and Ainoaid press release	Tele Radio America	General Public, customers, Industry, media	Tele Radio America link
IMPROVE and Ainoaid press release	El Periodic	General Public, customers, Industry, media	El Periodic link
IMPROVE and Ainoaid press release	Levante	General Public, customers, Industry, media	Levante Link
IMPROVE and Ainoaid press release	Cadena Ser	General Public, customers, Industry, media	Cadena Ser link
IMPROVE and Ainoaid press release	Televalencia	General Public, customers, Industry, media	Televalencia link
IMPROVE and Ainoaid press release	ABC	General Public, customers, Industry, media	ABC link
IMPROVE and Ainoaid press release	Actualidad Valencia	General Public, customers, Industry, media	Actualidad Valencia link
IMPROVE and Ainoaid press release	Camp de Turia Link	General Public, customers, Industry, media	Camp de Turia link

National Media "ABC"	La Policía Local de Valencia utilizará un robot para combatir la violencia machista	General public	https://www.abc.es/espana/comunidad-valenciana/policia-local-valencia-utilizara-robot-combatir-violencia-20220904165407-nt.html#amp_tf=De%20%251%24s&aoh=16623178642093&referrer=https%3A%2F%2Fwww.google.com&ampshare=https%3A%2F%2Fwww.abc.es%2Fespana%2Fcomunidad-valenciana%2Fpolicia-local-valencia-utilizara-robot-combatir-violencia-20220904165407-nt.html
National Media "La Cope"	La Policía Local trabaja en un proyecto para aumentar la detección de la violencia de género	General public	https://www.cope.es/emisoras/comunidad-valenciana/valencia-provincia/valencia/noticias/policia-local-trabaja-proyecto-para-aumentar-deteccion-violencia-genero-20220904_2270458
Valencia City Council website	Policía Local València trabaja en un proyecto para aumentar la detección de la violencia de género y la protección a las víctimas	General public, other	https://www.valencia.es/cas/actualidad/-/content/proyecto-improve-plv
Local Media "Valencia Extra"	Policia Local València treballa en un projecte per a augmentar la detecció de la violència de gènere i la protecció a les víctimes	General public	https://www.valenciaextra.com/valencia/policia-local-valencia-treballa-projecte-augmentar-deteccio-violencia-genere-proteccio-victimes_515020_102.html
Local Media "Actualitat Valenciana"	La Policía Local de Valencia forma parte del proyecto IMPROVE	General Public	https://actualitatvalenciana.com/policia-valencia-forma-parte-proyecto-improve/
Regional Media "Apunt Media"	Un robot conversacional multilingüe ajudarà víctimes de violència masclista a València	General Public	https://www.apuntmedia.es/noticies/societat/un-robot-conversacional-multilinguee-ajudara-victimes-violencia-masclista-valencia_1_1541271.html
Regional Media "El Meridiano"	Un robot conversacional multilingüe ayudará a víctimas de violencia machista	General Public	https://www.elmeridiano.es/un-robot-conversacional-multilingue-ayudara-a-victimas-de-violencia-machista/
Regional Media "El Levante"	La Policía Local participa en el diseño de un robot que detecta la violencia machista	General Public	https://www.levante-emv.com/valencia/2022/09/04/policia-local-participa-robotdetecta75005908.html?utm_source=whatsapp&utm_medium=social&utm_campaign=btn-share
El pais (Nacional)	Estoy aquí para darte apoyo": Violetta, Sophia y Sara, los chatbots que acompañan a víctimas de violencia machista	General public	https://elpais.com/tecnologia/2024-10-10/estoy-aqui-para-darte-apoyo-violetta-sophia-y-sara-los-chatbots-que-acompanan-a-victimas-de-violencia-machista.html

- **Gender Violence Victims as "Subjects" of the News**

A consistent theme across the analyzed articles is the notable absence of women's voices, particularly the voices of the primary users of tools like **AinoAid**: victims of gender violence. None of the articles provide individual testimonies or opinions from women about the **IMPROVE** project or the chatbot itself. This omission suggests a lack of engagement with the very people these technologies are designed to help. The feminist standpoint theory emphasizes the need to center the perspectives and experiences of marginalized groups—here, women victims of violence—to generate situated knowledge (Cabrera et al., 2020). Unfortunately, the articles fail to meet this standard, omitting both individual and collective perspectives from victims and advocates.

Instead, the articles focus heavily on the contributions of law enforcement, especially the Policía Local de Valencia, which is highlighted across all articles. This emphasis reflects a pattern in which public authorities, particularly law enforcement, are the primary "subjects" of the news. Their role is highlighted both in terms of specific individuals (invidual police officers involved in the project), and collectively as a force integral to the project's implementation. Additionally, municipal agents supporting the local police's participation are also mentioned in all articles, although their day-to-day involvement in the project remains unclear.

In contrast, the articles provide minimal coverage of other stakeholders, such as the technology companies responsible for developing the chatbot. This further skew the narrative towards a technocratic approach that prioritizes institutional and technological actors over the experiences of women, the intended beneficiaries. For example, only 1 article discusses the contributions of WeEncourage, the company responsible for developing AinoAid.

However, none of the articles include testimony from any direct victim who might be a potential user of the chatbot, nor from any victim support organizations, some of which are participants in the project. This is despite the fact that some of the news reports include the opinion of other officers highlighting the importance of 'listening to women' and maximizing the reach of care:

'The first thing I thought of when I heard about the chatbot was all the women we can't reach and who don't dare to tell a police officer in a police station what is happening to them. The chatbot can guide them to take those first steps',

(El País, 2024)

- **Gender violence victims as "objects" in the news.**

All the articles analyzed address the problem of gender-based violence as a security problem, focusing their arguments for the need for the chatbot on the magnitude of this violence and the low rates of reporting. Only one article (El País, 2024) discusses more than one tool (more than one chatbot), analyzing the different functionalities of each. All articles mention the issue of underreporting of this type of violence, but they fail to cite direct sources or explore the reasons why women may not report. Twenty out of the 40 news articles analyzed mention the number of "80% of victims of gender-based violence" not reporting the aggressions, but they do not provide the source for this percentage.

Additionally, one out of 40 articles notes that AinoAid is not exclusively designed to address the needs of victims but also provides support for potential aggressors. This places victims and perpetrators on equal footing, downplaying the severity of gender-based violence.

"Aino will be prepared to dialogue even with aggressors, those people who engage in violent behavior, who do not know how to avoid it, who want to reflect on their behavior and ask for help'.

(El Periódico, 2024)

News Analysis from a Feminist Perspective

As previously mentioned, the Fourth Wave of feminism centers the use of new technologies in its agenda, both to assess the potential contributions of cyber activism and to analyze the new forms of violence that these technologies can generate.

Only 1 out of 40 analyzed articles addresses the potential of these technologies to tackle a social problem that disproportionately affects women. These articles frame gender violence as a societal issue but fail to explore why victims may hesitate to report their abuse or how they experience interactions with tools like AinoAid.

Furthermore, only one of the articles mention feminism's contribution to the fight against gender violence or its role in the development of new technologies that integrate victims' needs, but limiting the acknowledgement to the funding provided:

'The project receives international funding and is part of the Feminist AI Research Network (FAIR), a global network of scientists, economists and activists whose purpose is to make AI and related technologies inclusive and transformative. There are other initiatives related to, for example, digital gender-based violence - such as the Chilean chatbot SOF+IA - and harassment on public transport with the SafeHER app, designed in the Philippines.'

(El País, 2024)

The articles overwhelmingly prioritize the needs and perspectives of law enforcement agents, reflecting a technocratic and institutional focus. This imbalance indicates that the media coverage largely aligns with the press releases provided by project stakeholders, as evidenced by the similarity of content across different outlets. In some cases, this content is replicated almost verbatim, further reducing the space for critical or alternative perspectives, particularly those from feminist organizations or victim advocacy groups.

The articles analyzed correspond to the early stages of the project, which may partially explain the limited discussion of the tool's impact on victims. Nevertheless, from a feminist epistemological standpoint, the omission of women's voices, both individually and collectively, represents a significant gap in the coverage. The over-reliance on law enforcement perspectives and the minimal engagement with victims' experiences illustrate a missed opportunity to align the discourse with the feminist commitment to privileging marginalized voices and integrating their needs into technological solutions.

Discussion

The analysis of the public perception of chatbots in the context of GBV, specifically regarding the AinoAid chatbot developed in the IMPROVE project, provides crucial insights into the broader social understanding of AI-based tools for victim support. Several key themes emerge from this analysis, including the potential benefits and limitations of using AI in this sensitive area, the role of feminist epistemologies in evaluating these tools, and the social impact of such technologies in the framework of the Fourth Wave of feminism.

Firstly, it is clear that while there is general support for the use of AI and chatbots as an initial resource for victims of GBV, the anonymity of the service is paramount for its acceptance. Many interviewees expressed a willingness to engage with the chatbot only if it provided complete anonymity, reflecting the deep concerns around privacy and safety, particularly for individuals in abusive situations. This finding is consistent with feminist perspectives that emphasize the need for technologies to be designed with the lived experiences and vulnerabilities of women in mind (Cabrera et al., 2020). The widespread lack of experience with chatbots, however, leads many to prefer human interaction after the initial engagement with AI. This dual preference for anonymity and human empathy highlights a tension between technological solutions and the personal, emotional needs of victims, underscoring the importance of personalization in AI responses.

The perceived advantages of the chatbot, such as 24/7 availability, instantaneous responses, and the absence of moral judgments, suggest that chatbots can play a crucial role in providing immediate, non-judgmental support. However, the concern that chatbots might be "cold" and lack the empathy necessary for sensitive issues like GBV was a significant barrier for many respondents. This reinforces the feminist critique that while AI can offer practical assistance, it must be paired with the possibility of human follow-up to provide the necessary emotional and psychological support.

Moreover, the analysis reveals a gap in public understanding and representation of the role of AI in combating GBV, particularly in the media. The feminist epistemological analysis of the 40 Spanish-language news articles revealed a lack of inclusion of women's voices, either as direct users of the chatbot or through advocacy organizations representing victims. This absence speaks to a broader issue of gendered exclusion in technological narratives, where the perspectives of those most affected by violence are often sidelined in favor of institutional or law enforcement viewpoints. The media's focus on security forces and public agents, rather than on the needs and experiences of victims, reflects the androcentric tendencies identified in feminist sociological critiques (Smith, 1979, 1987). This imbalance in media representation further supports the need for a feminist epistemology that centers the lived experiences of women and critiques the power dynamics inherent in knowledge production (Hartsock, 1983; Del Moral Espín, 2012).

In this context, the Fourth Wave of feminism, which places digital activism and the use of new technologies at its core, offers both opportunities and challenges. On the one hand, the Fourth Wave's emphasis on intersectionality, empowerment, and the fight against sexual violence aligns with the goals of tools like AinoAid. On the other hand, as noted by Looft (2017), the risk of trivialization through commercialization and celebrity involvement remains a concern. This tension between technological

innovation and meaningful social change mirrors the challenges faced by feminist movements in balancing widespread visibility with substantive impact.

The limitations of the chatbot, particularly in addressing the needs of non-native speakers or those under extreme control from their abusers, point to important areas for improvement. The interviewees' concerns about trust in the technology, anonymity, and the chatbot's ability to handle complex and diverse experiences of violence suggest that further refinement is needed to ensure these tools are truly accessible and effective for all users. Moreover, the reluctance to use platforms like WhatsApp due to safety concerns indicates that developers must prioritize security features that protect the privacy and confidentiality of users in precarious situations.

Finally, the potential of the chatbot to raise awareness, provide self-identification tools, and offer educational resources about lesser-known forms of violence, such as psychological and vicarious violence, presents a significant opportunity for preventative and educational interventions. This aligns with feminist calls for greater recognition of the complexities of GBV and the need for tools that not only respond to crises but also contribute to broader societal understanding and prevention of violence.

Therefore, while the AinoAid chatbot shows promise as an initial point of contact for victims of GBV, its effectiveness will depend on addressing the identified concerns around anonymity, personalization, and emotional engagement. The feminist epistemological framework highlights the importance of situating these tools within the lived experiences of women and ensuring that their development and deployment are informed by the needs and voices of victims. Moving forward, further research and refinement of these technologies are essential to ensure they fulfill their potential as tools for empowerment, support, and ultimately, the prevention of gender-based violence

Conclusions and Future Steps

The IMPROVE project, through the development of the AinoAid™ chatbot, has demonstrated the potential of AI to provide significant support to women victims of gender-based violence (GBV). By creating a new entry point to access support services, AinoAid™ helps break down historical barriers and empowers victims while raising societal awareness about the prevalence and impact of GBV. However, while the implementation of AI in this sensitive area is promising, it also comes with significant challenges that must be addressed to ensure its effectiveness and ethical use.

Key among these challenges are the issues of data accuracy, ethical handling, and maintaining user trust. AI systems, such as AinoAid™, rely heavily on algorithms that must be continuously refined to prevent biases and provide fair and accurate assessments. These algorithms must align with a victim-centered approach, ensuring that they are culturally sensitive, confidential, and safe for users. The General Data Protection Regulation (GDPR) and the AI Act (COM (2021) 206 final) highlight the importance of transparency, traceability, and accountability in algorithmic decision-making. Ensuring that these standards are met will be crucial to fostering trust in AI systems and protecting the rights and safety of victims.

Looking ahead, interdisciplinary collaboration will be critical for the continued success of AI tools like AinoAid™. This collaboration must involve not only technologists but also human rights experts, health professionals, feminists, and the victims themselves. Such an inclusive approach will ensure that AI systems are developed and implemented in ways that are relevant to the cultural and social contexts in which they operate. Moreover, partnerships with local organizations will ensure that AI tools are properly contextualized and responsive to the specific needs of different communities. Future initiatives should focus on strengthening these collaborations in the design and development of chatbots and AI tools.

Future actions should also focus on improving public awareness of the capabilities and limitations of AI systems in addressing GBV. Ongoing professional training for those who interact with AI tools, as well as the development of user-friendly interfaces, will be essential to maximize their utility and accessibility. As AI systems continue to evolve, there must be a concerted effort to ensure that they adapt ethically to new situations and challenges, always prioritizing the needs and safety of victims.

Additionally, to increase the accessibility and effectiveness of chatbots, it is necessary to develop multilingual and culturally adapted capabilities. These tools should be translated into different languages and their responses adapted to the specific cultural contexts of the users. This way, linguistic and cultural barriers can be eliminated, ensuring that the technologies are useful and relevant to a diverse audience.

For the long-term success of chatbots and AI tools, it is essential to conduct regular testing, gather feedback from users and other stakeholders, and adjust the systems based on the results obtained. The evaluation should include metrics of effectiveness, user satisfaction, and analysis of any biases or limitations detected in the functioning of the tools.

In sum, while AI holds immense potential to transform the support systems available to GBV victims, its development and deployment must be approached with caution and a commitment to ethical practices. Ensuring transparency, fairness, and collaboration across disciplines will be critical to overcoming the challenges associated with AI in this field. By doing so, we can create robust, inclusive, and effective technological solutions that provide real support to women as they seek to rebuild their lives in safety and dignity.

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Acknowledgements

Appendix 1. Sample of Women Interviewed in Spain.

Pseudonym	Age	Autonomous Community	Women's specificity	Educational background	Employment status	Housing conditions
Luciana	40	Basque Country	Migrant/ refugee	Post-secondary education	Unemployed	Rented apt./ house
Daniela	36	Basque Country	Migrant/ refugee	Post-secondary education	In training/ education	Rented apt./ house
Isabella	40	Basque Country	Migrant/ refugee	University degree	Unemployed	Supported housing
Aisha	39	Basque Country	Migrant/ refugee, rural area	Secondary education	Employed part-time	Shelter
Nekane	53	Basque Country	Rural area	Post-secondary education	Unemployed	Shelter
Mónica	48	Cantabria		University degree	Retired	Own private apt./ house
María Carmen	62	Cantabria	Elderly	University degree	Employed full-time	Rented apt./ house
Laura	43	Cantabria		Post-secondary education	Unemployed	Own private apt./ house
Cristina	39	Cantabria		Post-secondary education	Employed full-time	Rented apt./ house
María Ángeles	63	Cantabria	Elderly	Secondary education	Employed full-time	Apt./ house of relatives
Sara	43	Cantabria		Secondary education	Employed full-time	Rented apt./ house
Marta	46	Cantabria		University degree	Employed full-time	Rented apt./ house
María Teresa	55	Cantabria		Post-secondary	Unemployed	Rented apt./ house

Silvia	49	Cantabria		University degree	Employed full-time	Own private apt./ house
Patricia	46	Cantabria		Post-secondary education	Self- employed	Own private apt./ house
Raquel	45	Castile and Leon		Secondary education	Employed part-time	Own private apt./ house
Beatriz	43	Castile and Leon		University degree	Employed full-time	Own private apt./ house
Elena	35	Castile and Leon		Post-secondary education	Unemployed	Own private apt./ house
María Pilar	51	Castile and Leon		University degree	Unemployed	Own private apt./ house
María José	50	Castile and Leon		Secondary education	Unemployed	Own private apt./ house
Ana Belén	49	Castile and Leon		Primary education	Unemployed	Own private apt./ house
María Jesús	54	Castile and Leon		Post-secondary education	Employed full-time	Rented apt./ house
Ana María	50	Castile and Leon		University degree	Employed full-time	Own private apt./ house
Rosa María	56	Castile and Leon		University degree	Employed full-time	Rented apt./ house
Floria	43	Castile and Leon	Migrant/ refugee	Post-secondary education	Employed part-time	Own private apt./ house
Noelia	45	Castile and Leon		Post-secondary education	Employed full-time	Rented apt./ house
María	53	Castile and Leon		Post-secondary education	Employed full-time	Own private apt./ house

Camila	21	Madrid	Migrant/ refugee	Post-secondary education	Unemployed	Shelter
Luciana	35	Madrid	Migrant/ refugee	Post-secondary education	Unemployed	Shelter
Marcela	44	Madrid	Migrant/ refugee	Post-secondary education	Employed full-time	Shelter

Appendix 2. Interview Guide.

1. To start our conversation, I would be very interested to know how it did happen that you came into contact with professional support services?
2. Before your first contact, have there been moments in the relationship when you decided to get help? Can you tell me what happened back then?
3. Have you ever tried to seek help from the police or medical professionals How did this go?
4. In the second part of the interview, I would like to talk to you in detail about your experiences with the support organisation(s) you have been in contact with. Maybe you can tell me a bit more about your experiences and what happened during this first visit to the (insert organization)"
5. Can you maybe tell me more about how did this initial contact affect your life overall?
6. A central concern of our project is to improve access to support services. That's why we rely on your experience and thus I would like to hear your opinion what you think could be done so that victims of violence decide to seek support more often/earlier and what support services could do so that victims reach out to them more readily? Do you have any suggestions, thinking about your experiences?
7. As already mentioned, one goal of the IMPROVE project is to develop a chatbot AINO that will help victim-survivors seek support by lowering barriers to entry and providing relevant information. What should such a chatbot have to be able to do, and how it would have to be designed in order for you to use it as a platform that helps victims of violence get further support. First of all, however, I would like to know if you have ever used a chatbot, and if so, what for?
8. So, in general how do you feel about a chatbot helping victim survivors understand what they are undergoing and how to get help?
9. Would you be interested in helping along the development of this Chatbot further (providing feedback at certain stages throughout the development process)?
10. I would now like to ask a few questions about the design and functions of a chatbot?