The Role of Digital and E-Health Literacy in Preventing Violence Against Women[1] doi

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Abstract

This study aims to examine the relationship between digital entrepreneurship, health literacy, and social awareness in combating violence against women. The research analyzes individuals' modes of accessing information, their capacity to utilize digital health information, and the variations observed according to demographic characteristics. The study was conducted with 160 female participants from various age, education, and occupational groups residing in Paşaalanı District of Balıkesir Province. Data were collected using the Digital Awareness Scale, the E-Health Literacy Scale, and a demographic information form developed based on the literature. Findings reveal that participants have made digital technologies an integral part of their daily lives. While 91.9% of the participants reported using at least one mobile application every day, only 13.7% stated that they actively used digital support applications for women. This indicates a significant gap between technological access and actual awareness or utilization. Moreover, participants' digital awareness levels were high ($\bar{X}$ =3.9–4.1), whereas their e-health litera-cy levels were moderate ($\bar{X}$ =3.1–3.7). Based on the research findings, participants strongly agreed that solving social problems is everyone's responsibility ($\bar{X}$ =4.46) and that helping disadvantaged groups ($\bar{X}$ =4.46) is a fundamental social principle. However, trust in online health information sources remained relatively low ($\bar{X}$ =3.32).

In conclusion, participants demonstrated high digital awareness but moderate e-health literacy levels. The findings suggest that digital entrepreneurship can be more effective in combating violence against women when integrated with social responsibility and awareness. Accordingly, the study recommends developing educational, awareness-raising, and policy programs aimed at strengthening digital health literacy and social participation.

Keywords: Digital Awareness, E-Health Literacy, Violence Against Women, Digital Entrepreneurship, Social Responsibility, Social Justice.

JEL Codes: I12, I15, O35, J16, D83

Okan Koç

1. Introduction

In contemporary patriarchal societies, violence against women persists as a reflection of deep-rooted gender inequalities and traditional social norms (Barker, 2016; Sikweyiya et al., 2020; Tonsing & Tonsing, 2019). Historically, women have been confined to domestic roles and relegated to secondary positions, while men have been placed in positions of power and authority within public spheres (Pratto & Walker, 2004). Although significant progress has been achieved in women's rights within Western democratic societies, the persistence of cultural norms and gender-based ideologies continues to expose women to various forms of violence—physical, psychological, and structural.

Violence against women, a complex and multidimensional issue, is recognized worldwide as both a serious human rights violation and a major public health concern (García-Moreno et al., 2013). Gender-based violence encompasses all forms of aggression directed at individuals based on their gender (Jordan et al., 2010). Such violence can occur in a wide range of contexts—from private households to public spaces, from educational institutions to workplaces. Furthermore, situations of conflict, displacement, and other humanitarian crises can exacerbate this form of violence.

In the context of violence against women, in 2019 the World Health Organization (WHO), in collaboration with 13 United Nations agencies and funding partners, developed RESPECT — an evidence-based framework that outlines strategies for preventing violence against women. The RESPECT model has been piloted in many low- and middle-income countries and has received substantial support (WHO, 2019).

Violence against women includes physical, sexual, emotional, psychological, social, and economic forms of abuse (Stylianou, 2018). Although physical violence has traditionally attracted the most attention, emotional or psychological violence can be equally — and sometimes even more — devastating in its effects (Karakurt & Silver, 2013).

Research indicates that the different forms of violence against women often intersect. Physical and sexual violence typically occur as part of a broader pattern of coercion and control that also includes emotional abuse, and many women experience more than one type of violence simultaneously (Gondolf et al., 2002; Joshi et al., 2023). Notably, physical or sexual violence rarely occurs without emotional abuse; women who experience physical assault frequently report emotional mistreatment as well (Carney & Barner, 2012; Cordova et al., 1993).

While physical violence can result in severe bodily harm or even life-threatening injuries (Jordan et al., 2010), psychological violence undermines self-esteem, damages emotional integrity, and is often used to dominate or humiliate the victim (Ali et al., 2016; Jordan et al., 2010). Despite the severity of physical and sexual violence, emotional abuse alone can also be profoundly destructive—seriously harming an individual's self-respect, sense of worth, and mental health (Barkhuizen & Pretorius, 2005; Dokkedahl et al., 2019).

Sexual violence represents a grave violation of personal autonomy and privacy, involving coercion or threats that force women into unwanted sexual acts (Jordan et al., 2010). Economic violence, on the other hand, undermines women's autonomy by restricting their financial independence (Ali et al., 2016), while moral violence targets a woman's social reputation through defamation, humiliation, and verbal abuse.

In 2021, the World Health Organization (WHO) published a comprehensive report presenting global, regional, and national prevalence estimates of intimate partner violence and non-partner sexual violence against women. According to the report, between 2000 and 2018, 137 countries conducted at least one nationally or subnationally representative survey or study measuring non-partner sexual violence—representing a substantial increase compared to the period before 2000, when data were available from fewer than 20 countries.

The report indicated that approximately one in 17 women aged 15–49 years (6%; 95% confidence interval: 4–9%) reported having experienced non-partner sexual violence at least once in their lifetime since the age of 15 (WHO, 2018). Based on the global population in 2018, this corresponds to roughly 160 million women (95% CI: 120–250 million) affected by the health, economic, and social consequences of this form of violence. However, the report also emphasized that these figures are likely to be significant underestimations, as many cases remain unreported and the actual number of victims may be considerably higher.

In this study, violence against women is addressed through a holistic approach by examining the issue not only in its legal and social dimensions but also from the perspectives of health literacy and digital entrepreneurship. Accordingly, the aim of the research is to emphasize the importance of women's health literacy levels in combating violence and to reveal how digital technologies can be utilized as effective tools in this process. In this context, the study examines the interaction between health literacy, digital health applications, and innovative technological solutions, with particular emphasis on the role of digital platforms in raising awareness, facilitating access to support mechanisms, and contribu-

ting to empowerment processes. Since the existing literature on violence against women has largely focused on sociological, psychological, or legal perspectives, this research distinguishes itself by jointly addressing health literacy and the use of digital technologies, thereby offering an original and interdisciplinary contribution to the field.

Health literacy is the capacity of individuals to find, understand, evaluate, and apply basic health information and services in order to make appropriate health-related decisions (Broderick et al., 2014; Yasatekin, 2025). Conceptually, health literacy has evolved from a narrow clinical definition limited to reading, writing, and numeracy skills into a comprehensive social and cognitive model that encompasses individuals' self-efficacy, motivation, and capacity to take action (Hovingh et al., 2025; Yasatekin, 2025).

In the context of violence against women, this skill includes both a cognitive dimension that enables victims to comprehend the physical and psychological impacts of violence and an executive dimension that allows them to manage social resources by deciding to leave violent environments. Health literacy represents the balance between an individual's capabilities and the demands of support systems; when assistance mechanisms—such as complex digital application interfaces—become overly demanding, barriers may emerge regardless of an individual's overall literacy level. Although the rate of women's use of digital platforms to access health information in Türkiye is high, at 82.9%, overall health literacy levels are still reported to be low (Yasatekin, 2025).

Information and Communication Technologies (ICT) provide platforms that offer victims 24/7 accessibility and anonymity through e-health and m-health applications in the fight against violence against women (El Morr & Layal, 2020; Hui et al., 2024). These interventions became a critical lifeline during the COVID-19 period—often referred to as the "Shadow Pandemic"—when face-to-face support systems were severely restricted (Emezue, 2020). Functionally, digital interventions are classified into categories including emergency response, escape and safety planning, information provision, legal support, and risk self-assessment (Hui et al., 2024; Sumra et al., 2023).

In Türkiye, the KADES application provides action-oriented emergency support for individuals with low literacy levels by transmitting location information to law enforcement authorities with a single touch (Republic of Türkiye Ministry of Interior, 2018). New-generation, artificial intelligence–based projects such as no pAIn have emerged as autonomous security shields that aim to detect violence through audio signals without requiring a physical trigger from the victim and to automatically send emergency assistance requests (Giorgio, 2025).

The effectiveness of a digital intervention depends on the extent to which the system is aligned with the user's information processing capacity. Health-literate design principles require content to be written in plain language, information to be divided into small, manageable units (chunking), and navigational simplicity that allows users to access the most critical features within seconds. In application development processes, user-centered designs (co-design) that actively involve victims enable a better understanding of the real needs of women with low literacy levels and increase the adoption rates of digital interventions.

1.1. Digital Tools and Violence Against Women

The advancement of digital technologies has introduced powerful tools for addressing and combating violence against women. Compared to traditional intervention methods, digital solutions offer greater accessibility, speed, and personalization, creating significant opportunities in reporting, providing support, and strengthening response mechanisms. Mobile applications, online counseling platforms, emergency alert buttons, artificial intelligence–based analysis systems, and social media awareness campaigns are among these innovative approaches.

For women living in rural areas or socially restrictive environments, digital tools serve as a vital bridge for those who cannot easily access physical counseling centers. However, digital inequalities, data privacy risks, and the potential for online platforms to reproduce or amplify violence must also be considered. Therefore, in developing technology-based intervention tools, it is crucial to ensure both gender sensitivity and ethical responsibility to promote safe, inclusive, and effective solutions. The digital tools presented in this section of the article (such as Circle of 6, KADES, Bright Sky, etc.) are representative examples selected from the numerous applications identified in the literature, based on three main criteria. These applications were chosen to comprehensively reflect the five core functional categories proposed by Sumra et al. (2023) and Eisenhut et al. (2020): Emergency Support, Avoidance/Safety Planning, Information/Awareness, Legal Support, and Self-Assessment.

1.1.1. Circle of 6

Circle of 6 is an iPhone-compatible safety application designed to help college-aged young adults stay connected with their circle of friends and prevent violence before it occurs. The app allows users to create a support circle of six people—five trusted contacts selected from their address book—and enables them to request help with just two taps.

Through intuitive icons on the interface, users can discreetly send pre-set messages such as *"Come and get me," "Call me,"* or *"I just need to share my location,"* without drawing attention. The GPS-ba- sed location sharing feature is activated only with the user's consent and sends the location directly to the selected circle. These functions ensure both privacy and rapid response in emergencies.

Figure 1. Circle of 6 Application

Moreover, Circle of 6 seeks to reduce the risk of violence and enhance campus safety by engaging the wider public through Facebook and other social media platforms, fostering awareness and collective responsibility in preventing gender-based violence.

1.1.2. BSAFE project

The BSAFE Project is a multinational solidarity initiative launched in response to Russia's large-scale invasion of Ukraine. Its primary goal is to prevent and combat gender-based violence (GBV) faced by displaced and vulnerable populations, particularly women and children. Research conducted following the onset of displacement revealed that 69% of refugee women entering Europe had experienced sexual and gender-based violence (2012), clearly illustrating the magnitude of the problem.

Within just one month after the war began, nearly four million people fled Ukraine, exposing women to heightened risks such as human trafficking, sexual exploitation, and other forms of violence, thereby aggravating an already dire humanitarian situation.

Figure 2. Bsafe Application

Bringing together organizations from Slovakia, Poland, and the Czech Republic, the BSAFE Project aims to develop effective protection measures in countries at the heart of the crisis. Its focus extends beyond addressing physical violence to also providing solutions for psychological, social, and economic forms of abuse (Project BSAFE, 2022).

1.1.3. Right to be (hollaback!)

In 2005, a group of seven New York residents—four women and three men—created an anti-harassment blog called "Hollaback!". As one of the first digital platforms aimed at raising awareness about street harassment, this initiative gradually evolved into lo-

cal networks in cities such as Atlanta, Baltimore, Chicago, London, and Philadelphia.

In 2015, the organization conducted the largest-ever study on street harassment in collaboration with Cornell University. The following year, in 2016, it launched "HeartMob", a platform offering direct support to victims of online harassment. In 2020, in partnership with L'Oréal, the organization implemented the "Stand Up Against Street Harassment" program, which reached 1.8 million people across 42 countries.

Following the death of George Floyd and the rise of the #BlackLivesMatter movement, the organization began offering free bystander intervention trainings to address police-backed and racially motivated harassment. During the COVID-19 pandemic, in response to the increase in harassment against people of Asian descent, the group collaborated with AAJC to develop "Bystander Intervention 2.0" trainings. It also produced multilingual animated videos demonstrating how bystanders can intervene in harassment situations.

As a result of these developments, Hollaback! rebranded itself as "Right To Be", evolving into a multilayered social justice movement that responds to the challenges of the digital age (Right To Be, 2024).
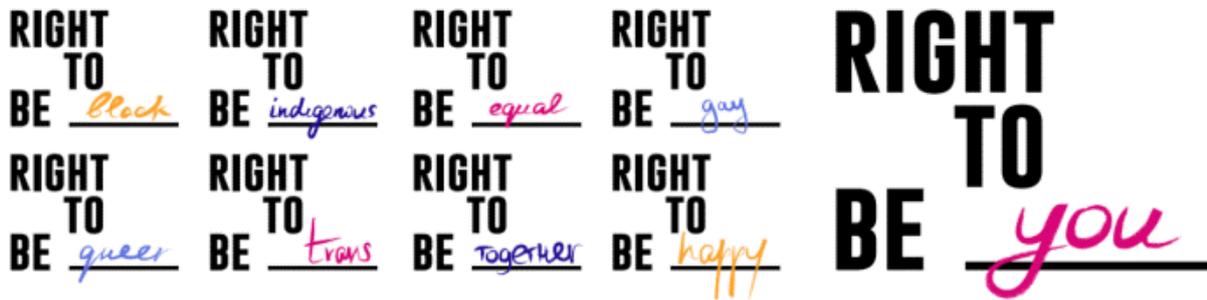

Figure 3. Right to Be Application

1.1.4. Bright sky

The Bright Sky application, developed in the United Kingdom, provides a range of tools designed to support individuals at risk of domestic abuse. These include self-assessment questionnaires, safety planning resources, information on support options, and direct access to helplines, helping users both raise awareness of their situation and seek appropriate guidance and assistance.

Figure 4. Bright Sky Application

Users can complete assessments not only for themselves but also on behalf of friends or family members who may be at risk, and can access support hotlines when needed. The application's "My Journal"

Figure 5. Safetipin Application

Okan Koç

feature allows individuals to document incidents that occur before and after physical separation, facilitating the tracking of abusive behavior. It also draws attention to often-overlooked issues such as the safety of children and pets.

Additionally, Bright Sky provides information about legal procedures and protective measures, offering crucial guidance during the separation process. Through these features, the app has become an essential digital resource that prioritizes individual safety by leveraging the capabilities of the digital age (Bright Sky, 2024).

1.1.5. Safetipin

Safetipin is a social impact–oriented organization that aims to make public spaces safer and more inclusive for women. Through its three mobile applications—My Safetipin, Safetipin Nite, and Safetipin Site—the organization collects and analyzes data on urban safety levels. Based on these analyses, Safetipin collaborates with local governments, NGOs, and the private sector to develop and implement targeted solutions for improving safety and accessibility in cities.
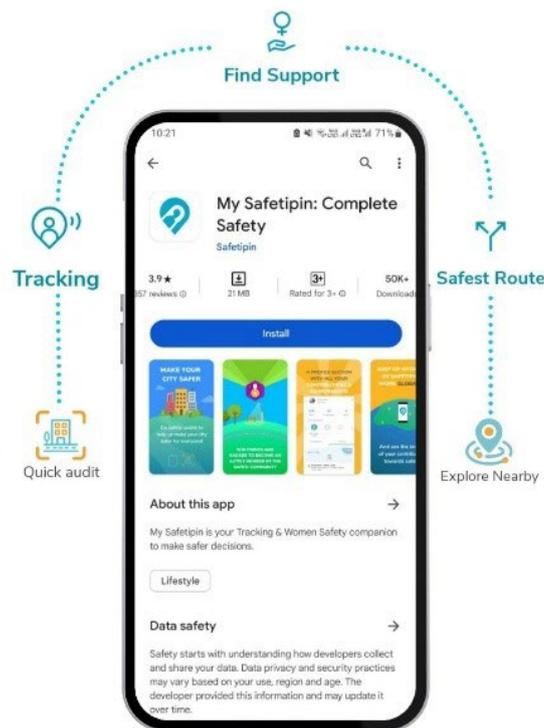

Figure 5. Safetipin Application

The applications allow users to plan safe routes, report safety concerns, and monitor their personal security in real time. Inspired by the safety pin, a symbol used by women in India to express resistance against harassment in crowded public spaces, Safetipin also offers a digital mapping platform that displays safety scores as "pins" on a city map.

The organization's core objective is to make 100 cities gender-sensitive in terms of safety by 2035. In this regard, Safetipin not only enhances individual freedom of movement but also contributes to the development of data-driven urban safety policies, positioning itself as a key actor in the global movement for safer and more inclusive cities (Safetipin, 2024).

1.1.6. KADES (women support application)

The Women Support Application (KADES) is an official mobile application developed by the General Directorate of Security (EGM) in Türkiye to provide rapid emergency response for women facing violence, harassment, or other forms of abuse.

The application was specifically designed to prevent domestic violence and threats against women, offering users a direct and efficient channel to request immediate help from law enforcement. Users can download the app via Google Play Store or Apple App Store and activate it using their Turkish ID number along with an activation code received through EGM's secure servers.

Figure 5. Safetipin Application

The Role of Digital and E-Health Literacy in Preventing Violence Against Women

Through this system, KADES ensures fast, reliable, and official intervention in emergencies, marking a crucial step toward the digital transformation of gender-based violence prevention efforts in Türkiye.

Figure 6. KADES, Women Support Application

Users with location services enabled can contact the 155 Police Emergency Line with a single tap to request immediate assistance. Upon receiving an alert, the nearest patrol unit is dispatched to the scene to ensure rapid intervention. In incidents occurring within police jurisdiction areas, the average response time has been reported as five minutes (T.R. Ministry of Interior, 2023).

1.1.7. ALO 183 social support hotline

The ALO 183 Social Support Hotline is a call center operated by the Ministry of Family and Social Services in Türkiye. It provides guidance and counseling services for families, women, children, persons with disabilities, the elderly, relatives of martyrs, veterans, and their families.

Operating 24 hours a day, seven days a week, the hotline is toll-free for domestic callers. Calls in Kurdish and Arabic are also received and handled by staff fluent in these languages. In addition, sign language–trained personnel assist hearing- and speech-impaired individuals through video calls made via 3G-compatible phones. The service also offers 24/7 support through internet-based messaging on WhatsApp, ensuring accessibility and inclusivity for all users.

Figure 7. ALO 183 Application

Reports received through the ALO 183 Social Support Hotline concerning neglect, abuse, violence, and honor-related killings are forwarded—based on the urgency of each case—to the Provincial Emergency Response Team Supervisor and/or law enforcement units. When necessary, emergency response teams coordinate with the gendarmerie and police departments to ensure a swift and effective intervention. In 2024, a total of 235,460 cases were recorded as processed and closed following completion of the intervention procedures through the ALO 183 hotline (ALO 183, 2024).

1.1.8. My purple map

In Türkiye, the "My Purple Map" (Mor Haritam) project is an initiative implemented with the support of UN Women Türkiye and the Swedish International Development Cooperation Agency (SIDA). Through this project, women can easily access information about support centers, women's shelters, and institutions providing psychological counseling services in their local areas via an interactive digital map.
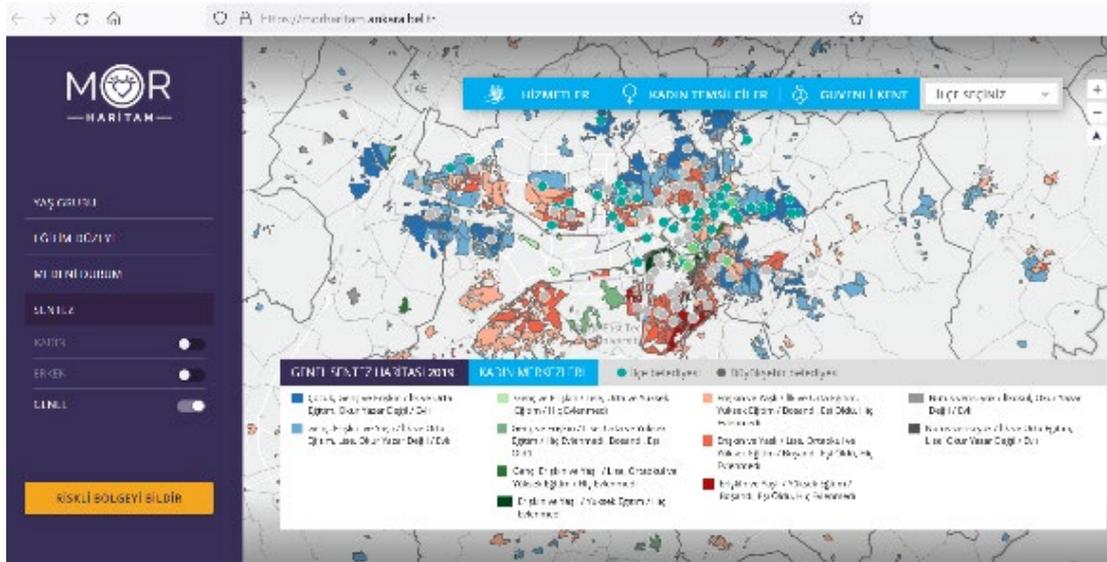

Figure 8. My Purple Map Application

Operating through both a website and mobile-compatible platforms, the system provides data-driven analyses on issues such as safety, accessibility, and threats of violence to NGOs, local authorities, and individuals within the city. In doing so, it enables women to access safe transportation routes and support services more consciously and effectively (My Purple Map, 2023).

2. Health Literacy

Health literacy encompasses individuals' knowledge, motivation, and competencies to access, understand, evaluate, and apply health information in their daily lives in order to use health services effectively, prevent diseases, and promote and improve health (Sørensen et al., 2021). The European Health Literacy Survey (HLS-EU) project highlights health literacy as a modifiable determinant of health by integrating both individual and public health perspectives (Sørensen et al., 2015; Nutbeam & Lloyd, 2021). Today, health literacy has become an integral component of health, social, and educational policies, extending beyond individual skills to include environmental factors, available resources, and contextual influences.

3. Research Objective and Conceptual Framework

This study was conducted to determine the relationship between women's e-health literacy levels and their perceptions of digital awareness, and to discuss the role of these competencies in the effective use of technology-based applications employed in combating violence against women. While health literacy is generally defined in the literature as the capacity to access and understand information, the primary focus of this study is e-health literacy, where information is obtained through electronic sources.

The theoretical foundation of the study is based on the integration of the cognitive and social capacities required for women not only to download digital tools (such as KADES, no pAIn, etc.) but also to manage these tools safely and consciously. In this context, the relationship between the variables examined directly affects women's potential to use technological opportunities (e.g., emergency buttons, GPS tracking, etc.) as active and informed users in situations of violence.

4. Method

Ethical approval for this study was obtained from the Balıkesir University Health Sciences Non-Interventional Research Ethics Committee (Decision No: 2025-54, Date: February 2, 2025). Informed consent was obtained from all participants prior to data collection.

A quantitative research design was adopted to identify statistical relationships between the study variables. The sample consisted of 160 women aged between 18 and 65 who reside in the Paşalani District of Balıkesir, Türkiye. This district was selected because it represents an urban population with relatively high access to digital health services, and because the widespread use of technology provides diversity in data relevant to the variables of digital awareness and e-health literacy.

Data were collected through face-to-face interviews with the women included in the sample (or on a voluntary basis via women's associations/community centers located in the district). This method allowed the inclusion of women who could not be reached online or who are less engaged with digital tools, thereby minimizing bias arising from the digital divide. Participants were verbally informed about the study and their consent was obtained.

E-health literacy was measured using the E-Health Literacy Scale (eHEALS), originally developed by Norman and Skinner (2006) and adapted into Turkish with established validity and reliability by Uskun et al. (2022). Digital awareness, ethical–legal consciousness, and perceptions of security were measured using the Digital Awareness Perception Scale, developed by Karakuş and Kılıç (2024).

The collected data were analyzed using the SPSS 26.0 software package:

1. **Descriptive Statistics:** Frequency, percentage, mean, and standard deviation were calculated to describe the demographic profile of the sample (age, education level, marital status, etc.) and the mean e-health literacy scores.

2. **Pearson Correlation Analysis:** This analysis was selected to determine the strength and direction of the linear relationship between the two continuous variables, namely e-health literacy and digital awareness perception. It enables the empirical examination of whether an increase in women's awareness of digital tools is associated with an improvement in their ability to manage health-related information online.

5. Findings
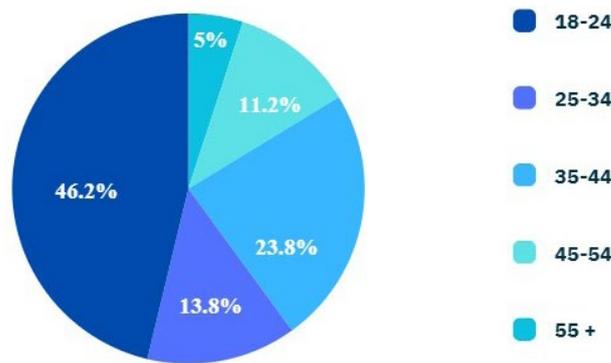
5.1. Distribution of Participants by Age

Figure 9. Distribution of Participants by Age

A total of 160 individuals participated in the study. The majority of participants were aged 18–24 years (46.2%), followed by the 35–44 age group (23.8%), 25–34 age group (13.8%), 45–54 age group (11.2%), and 55 years and older (5%). This distribution indicates that the participant group was predominantly composed of young individuals, while middle-aged and older adults were also represented to a certain extent. Therefore, when examined in terms of age, the study demonstrates a balanced structure, incorporating the perspectives of both younger and adult participants.

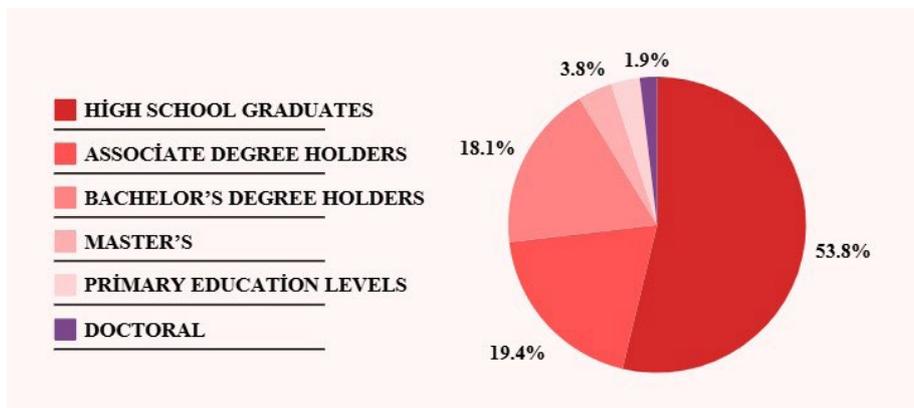### 5.2. Distribution of Participants by Education Level

Figure 10. Distribution of Participants by Education Level

When examining the distribution of educational levels among the 160 participants, the majority were high school graduates (53.8%). This was followed by associate degree holders (19.4%), bachelor's degree holders (18.1%), and participants with other educational backgrounds—including master's, doctoral, or primary education levels—representing 8.7% of the sample. The educational distribution indicates that more than half of the participants have a high school education. Therefore, the sample represents a limited range of educational backgrounds, and this should be considered when interpreting the findings.

5.3. Household Income Level of Participants

Figure 11. Distribution of Participants by Income Level

The figure related to household income level was presented using a different graphical format in order to provide stronger visual emphasis, as this variable reflects an important indicator of participants' socioeconomic status. An analysis of the monthly household income levels of the 160 participants revealed that nearly half (48.1%) belonged to the 40,000 TL and above income group. This was followed by participants earning 30,000–39,999 TL (20.6%) and 20,000–29,999 TL (16.9%) per month. Additionally, 13.8% of participants reported a monthly income between 10,000–19,999 TL, while only 0.6% fell within the below 9,999 TL income group. The findings indicate that the majority of participants belong to the middle-income group, while the sample as a whole is relatively economically better off compared to the general population.

5.4. Distribution of Participants by Marital Status
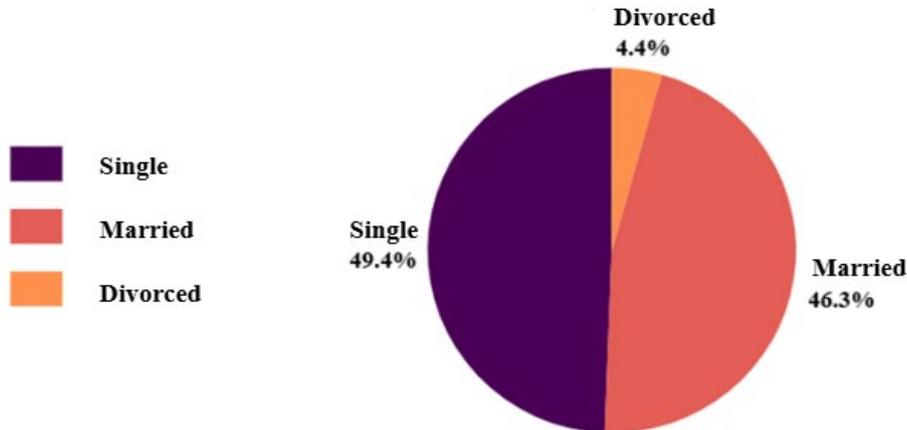
Figure 12. Distribution of Participants by Marital Status

An examination of the marital status of the 160 participants revealed that nearly half (49.4%) were single, while a similarly balanced proportion (46.3%) were married. Additionally, 4.3% of the participants (7 individuals) were divorced. This distribution demonstrates that the research sample is well-balanced in terms of marital status, with both single and married individuals being represented at nearly equal rates, ensuring diversity in perspectives related to personal and social circumstances.

5.5. Employment Status of Participants

Figure 13. Distribution of Participants by Employment Status

An analysis of the employment status of the 160 participants revealed that the largest group consisted of private sector employees (36.3%). This was followed by unemployed participants (23.1%), students (15.6%), public sector employees (13.7%), and retired individuals (11.3%). This distribution indicates that the sample includes individuals who are actively participating in the labor market as well as those who are students or retired, thereby reflecting a diverse representation of employment statuses within the study population.

5.6. Frequency of Mobile Application Use

Figure 14. Distribution of Participants by Frequency of Mobile Application Use

The purpose of this item was not to identify the use of specific types of applications, but rather to determine whether participants use any mobile applications in general and to assess their overall familiarity with mobile technologies. Therefore, no specific application names are included in the table. An analysis of the frequency of mobile application use among the 160 participants revealed that the vast majority (91.9%) reported using mobile applications daily, while a small proportion (8.1%) indicated using them a few times per week. This finding demonstrates that participants are highly integrated into digital technologies, with mobile applications serving as an essential part of their daily lives. An analysis of

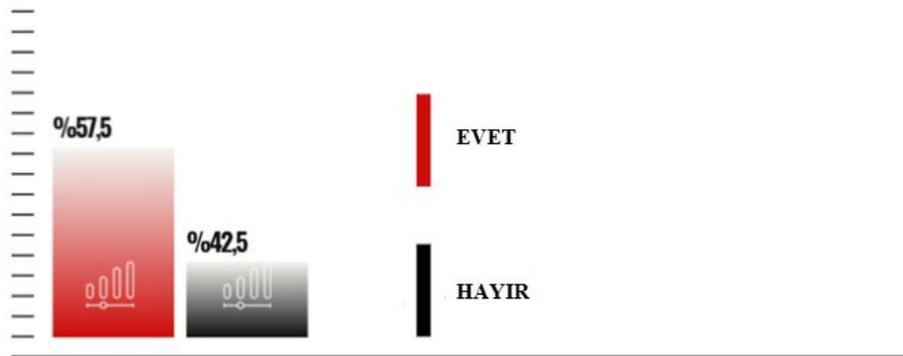## 5.7. Awareness of Digital Women Support Applications

Figure 15. Distribution of Participants by Awareness of Digital Women Support Applications

the awareness of digital women support and technology-based anti-violence applications among the 160 participants revealed that 57.5% were aware of such platforms, while 42.5% stated that they were not familiar with them. This finding indicates that public awareness of digital support tools remains moderate, yet a significant portion of individuals are still unaware of these resources. Therefore, it underscores the need to strengthen information dissemination and awareness-raising efforts to increase the visibility and accessibility of digital tools designed to support women and prevent violence.

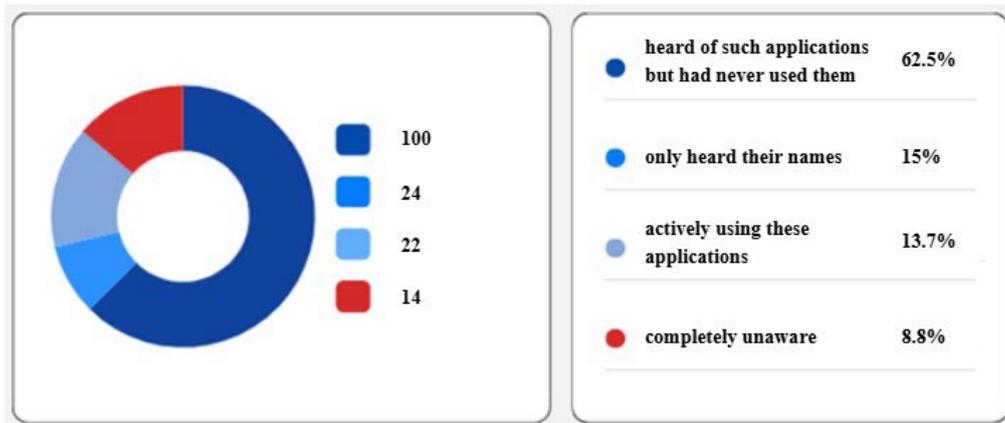## 5.8. Use of Digital Women Support Applications

Figure 16. Distribution of Participants by Use of Digital Women Support Applications

An examination of the experiences of the 160 participants regarding digital support applications for women revealed that 62.5% had heard of these applications but had never used them. Additionally, 13.7% stated that they had used such applications, 15% reported that they had only heard their names, and 8.8% indicated that they were completely unaware of their existence.

These findings demonstrate that while awareness of digital tools aimed at combating violence against women has become increasingly widespread, the rate of active use remains relatively low, emphasizing the importance of enhancing user engagement, digital literacy, and accessibility to ensure the effective utilization of these technological resources.

5.9. Use of Digital Women Support Applications by Age Groups

Table 1. Distribution of Digital Women Support Application Use by Age Groups

Age Group	Yes (User)	Yes, Heard but Not Used	Heard of It but Never Used	No (Never Heard)	Total (n)
18-24	6 54,5%)	30 (38,5%)	40 (44,4%)	10 (66,7%)	86
25-34	2 (18,2%)	8 (10,3%)	25 (27,8%)	5 (33,3%)	40
35-44	1 (9,1%)	20 (25,6%)	10 (11,1%)	0 (–)	31

45-54	0	15 (19,2%)	10 (11,1%)	0 (–)	25
55 and above	2 (18,2%)	5 (6,4%)	5 (5,6%)	0 (–)	12
Total	**11 (6,9%)**	**78 (48,7%)**	**90 (56,2%)**	**15 (9,4%)**	**160**

An analysis of the data presented in Table 1 reveals that the levels of awareness and use of digital women support applications differ significantly across age groups. While the majority of participants have heard of these applications, the number of active users remains quite limited.

The highest levels of awareness and usage were observed among participants aged 18–24, who are generally more adapted to digital technologies. This group is followed by the 25–34 age group, which demonstrates high awareness but relatively low usage. Among participants aged 35 and above, awareness remains present, but active use decreases noticeably. In particular, individuals aged 45 and older show considerably lower levels of both awareness and engagement. It is thought that the decrease in awareness and usage levels as age increases may be associated with factors such as relatively lower levels of digital literacy, difficulties in accessing and adapting to technology, and more limited trust in digital platforms.

These findings emphasize the importance of implementing age-specific digital literacy and awareness programs to enhance the effectiveness and accessibility of digital women support applications, ensuring that such tools can reach and empower a broader demographic of women.

5.10. Use of Digital Women Support Applications by Employment Status

Table 2. Distribution of Digital Women Support Application Use by Employment Status

Employment Status	Yes (User)	Yes, Heard but Not Used	Heard of It but Never Used	No (Never Heard)	Total (n)
Student	3	6	20	5	34
Unemployed	3	30	25	4	62
Private Sector Employee	4	28	20	8	60
Public Sector Employee	3	14	2	1	20
Retired	0	18	10	0	28
Total	**13 (8,1%)**	**96 (60,0%)**	**77 (48,1%)**	**18 (11,3%)**	**160**

An analysis of the data in Table 2 shows that the levels of awareness and use of digital women support applications vary according to participants' employment status. Among public sector employees, both awareness and usage rates are higher compared to other groups. In contrast, while retired and unemployed individuals demonstrate relatively high levels of awareness, their active use of these applications remains low. Similarly, among students and private sector employees, the awareness level is notable, yet actual usage is limited. Overall, the findings indicate that while awareness of digital women support applications is high, active use remains low, particularly among non-working and older participants. These results highlight the importance of developing informative campaigns and educational programs aimed at increasing motivation and engagement in using digital tools designed to support women and prevent gender-based violence.

6. Digital Literacy

Digital literacy and e-health literacy have become essential competencies for empowering victims and facilitating access to protective mechanisms in the fight against violence against women (Hovingh et al., 2025; Yasatekin, 2025). Health literacy refers to an individual's capacity to access, understand, evaluate, and apply basic health information and services in order to make appropriate health-related decisions.

In the context of combating violence against women, these skills extend beyond mere technology use and encompass both a cognitive dimension—enabling victims to understand the physical and psychological impacts of violence—and an executive dimension, which allows them to manage social and legal resources by making the decision to leave violent environments.

Women with high levels of e-health literacy are more likely to disclose sensitive information through digital platforms or computer-based tools, particularly when fear of stigma and judgment prevents them from sharing such information in face-to-face settings (Butterby & Lombard, 2025; El Morr & Layal, 2020). Technology-based intervention tools (e.g., myPlan, I-DECIDE) provide victims with anonymity and 24/7 accessibility, thereby reducing decisional

conflict and enhancing self-efficacy. Research has shown that, independent of formal education duration, literacy and health knowledge are among the most reliable protective factors in reducing the risk of violence (Van Komen & Pierce, 2024). In contrast, low literacy levels constitute one of the most significant barriers to help-seeking behavior and may lead women to normalize the violence they experience.

Table 3. Descriptive Statistics on Digital Literacy

Statement	Mean	Standard Deviation	Evaluation
Harmful software (e.g., viruses, trojans) can infect digital devices.	3.88	0.74	Positive
Digital technologies have positive effects on my daily life.	3.96	0.65	Positive
I am aware of the power of social media within digital technologies.	4.02	0.64	Positive
I communicate through digital platforms (e.g., Facebook, Instagram).	4.11	0.71	Positive

The participants' awareness of harmful software such as viruses and trojans was found to be positive, with a mean score of 3.88. The standard deviation of 0.74 indicates that responses were relatively consistent, suggesting that most participants demonstrated a similar level of awareness regarding digital security risks.

Participants also showed a positive perception of the beneficial effects of digital technologies on daily life, with a mean score of 3.96. The standard deviation of 0.65 suggests that responses were largely similar, indicating that participants generally agree on the contribution of digital technologies to quality of life.

In terms of awareness of the negative effects of digital technologies, the mean score of 3.88 reflects a positive awareness level. This finding suggests that participants recognize not only the advantages but also the potential drawbacks of digital technologies.

The standard deviation of 0.67 shows a high degree of response consistency, implying that most participants shared comparable opinions.

Participants' awareness of the power of social media within digital technologies was also positive, with a mean of 4.02. This result indicates that participants are conscious of the social, cultural, and individual influence of social media. The standard deviation of 0.64 reflects strong response consistency across the group.

Finally, participants' engagement in digital communication scored the highest, with a mean of 4.11, indicating active use of social media and digital communication platforms. The standard deviation of 0.71 suggests that responses were similar, showing that the majority of participants possess a comparable level of awareness and engagement in digital communication practices.

7. E-Health Literacy

Table 4. Descriptive Statistics on E-Health Literacy and Social Awareness

Statement	Mean	Standard Deviation	Evaluation
How important is it for you to access online health resources?	3.71	0.67	Positive
I know where to find useful health resources on the Internet.	3.09	0.94	Negative
I know how to use the Internet to find answers to my health-related questions.	4.10	0.68	Positive
I know how to use the health information I find online to help myself.	4.02	0.71	Positive
I have the ability to evaluate the health resources I find online.	3.86	0.77	Positive
I can distinguish high-quality health resources from low-quality ones on the Internet.	3.26	1.05	Negative
I feel confident in using online information when making health-related decisions.	3.32	0.91	Negative
When I think about disadvantaged people in society, I try to put myself in their place.	4.41	0.74	Positive
I don't care about what disadvantaged people in society feel.	1.62	0.83	Positive
Seeing disadvantaged people in society affects me emotionally.	4.46	0.68	Positive
Helping people who are less fortunate than us is an ethical responsibility.	4.38	0.71	Positive

Helping disadvantaged people in society is a moral obligation for us.	4.52	0.66	Positive
Social justice requires us to help people who are less fortunate.	4.49	0.69	Positive
The necessity of helping disadvantaged people is one of society's core principles.	4.47	0.68	Positive
Solving social problems is something we can all contribute to.	4.58	0.61	Positive
If I set my mind to it, I believe I can contribute to solving social problems.	4.12	0.74	Positive
I can find a way to help solve the problems faced by society.	3.96	0.81	Positive

In the five-point Likert-type scales used in this study, the cut-off point was set at 3.4. This decision was primarily based on the calculation of the interval width. For a five-point Likert scale (ranging from 1 to 5), the interval width is calculated as $[(5−1)/5 = 0.80]$, and accordingly, the range of 3.41–4.20 is considered to represent a "high level." Therefore, the value of 3.4 was accepted as a scientific threshold indicating that participants had reached not only a level above the neutral point (3.0) but also a meaningful level of competence.

The analysis of Table 4 shows that participants consider access to online health resources to be important ($X^- = 3.71$). The mean value above the 3.4 threshold suggests that individuals generally view obtaining health information in digital environments as valuable.

However, when examining participants' ability to find useful online health resources, the data reveal a neutral or uncertain attitude ($X^- = 3.09$). Since the mean value is below the 3.4 cutoff point, it suggests that participants lack sufficient knowledge or confidence in locating reliable digital health information.

Participants were found to have a positive attitude toward using the Internet to find answers to health-related questions. The mean score of 4.10, which is above the 3.4 cutoff point, indicates that individuals are able to use digital health resources effectively.

The data also show that participants demonstrate a positive attitude toward utilizing and properly applying the health information they find online. The mean score of 4.02, again above the 3.4 threshold, indicates that individuals possess adequate awareness and competence in evaluating and applying online health content in a meaningful and informed manner.

Participants were found to have a positive attitude toward evaluating the reliability and accuracy of online health information. The mean score of 3.86, which is above the 3.4 cutoff point, indicates that individuals possess a basic level of awareness in questioning and analyzing health information available in digital environments.

However, participants' ability to distinguish between high- and low-quality online health resources was below the desired level, with a mean score of 3.26, falling short of the 3.4 threshold. This suggests that individuals do not yet have sufficient awareness or confidence in assessing the credibility of online health information.

Participants' empathetic awareness toward disadvantaged individuals was found to be very high ($X^- = 4.41$). This finding indicates that participants—particularly students—demonstrate strong social sensitivity and make an effort to understand the circumstances of disadvantaged groups.

Moreover, the majority of participants disagreed with the statement *"I don't care about what disadvantaged people feel."* The low mean score of 1.62, due to the reverse scoring of this item, confirms that participants possess a high level of empathy and social awareness, reflecting strong moral and emotional engagement with social issues.

Participants reported a high level of emotional impact when encountering disadvantaged individuals ($X^- = 4.46$). This finding indicates that students possess a sensitive and empathy-based perspective toward social issues, reflecting emotional engagement and compassion.

Participants also showed strong agreement with the statement *"Helping people who are less fortunate than us is an ethical responsibility"* ($X^- = 4.38$). This suggests that they have developed a sense of moral responsibility and a social awareness grounded in ethical values.

Furthermore, participants expressed very high agreement with the statement *"Helping disadvantaged individuals is a moral obligation"* ($X^- = 4.52$). This result demonstrates that students not only uphold ethical principles but also view social solidarity and humanitarian support as a moral duty, emphasizing their commitment to collective well-being and justice.

Participants showed strong agreement with the statement *"Social justice requires helping disadvantaged individuals"* ($X^- = 4.49$). This finding indicates that students perceive social justice not merely as a theoretical ideal, but as a practical and moral responsibility that calls for active engagement in addressing inequality.

According to the data, participants also expressed high agreement with the view that *"Helping disadvantaged individuals is a social principle"* ($X^- = 4.47$). This result demonstrates that students are deeply

committed to the values of social solidarity and mutual support, highlighting their alignment with collective humanitarian values.

Furthermore, participants exhibited a strong sense of collective responsibility in addressing social problems (X^- = 4.58). They believe that solving social issues is not solely the duty of the state or institutions, but rather a shared responsibility that requires individual effort, community cooperation, and social awareness. This perspective underscores a civic-oriented mindset rooted in empathy, ethical responsibility, and participatory citizenship.

According to the table, students demonstrate a high level of self-efficacy in contributing individually to the solution of social problems (X^- = 4.12). This finding suggests that participants do not rely solely on external authorities to address social issues; rather, they believe that individual effort and determination can make a meaningful difference.

A considerable portion of participants feel confident in their ability to contribute to solving social problems and recognize the importance of personal involvement. However, since the mean score remains slightly below the level of absolute agreement, it can be inferred that some students experience uncertainty or a lack of confidence regarding their individual capacity to influence social change.

8. Conclusion and Recommendations

The aim of this study is to determine the relationship between women's e-health literacy levels and their perceptions of digital awareness, and to examine the contribution of these competencies to the effective use of technology-based applications employed in combating violence against women.

It was found that 91.9% of participants use mobile applications daily. However, only 57.5% reported being aware of digital support applications for women (such as KADES), and a mere 13.7% stated that they actively use these applications. This reveals that despite a high level of technological access and engagement, there is a significant lack of awareness and practical utilization of digital tools in the fight against gender-based violence. Notably, participants aged 18–24 showed high awareness but low usage rates, underscoring the gap between information access and behavioral transformation. This highlights the importance of translating digital awareness into active participation, through education, motivation, and empowerment-oriented strategies that encourage the use of technology for social protection and gender equality.

Findings regarding e-health literacy levels reveal that individuals exhibit a positive tendency toward accessing health information in digital environments (X^- = 3.71). However, the relatively lower mean scores for the items *"knowing where to find useful health re-*

sources" (X^- = 3.09) and *"trusting online information when making health-related decisions"* (X^- = 3.32) indicate that while participants are competent in accessing information, they experience deficiencies in evaluating its accuracy and reliability. This suggests that digital health literacy should not be limited to the ability to reach information; it must also encompass the critical evaluation, interpretation, and validation of information sources. Strengthening these dimensions would enable individuals to make more informed and evidence-based health decisions, thereby enhancing both personal well-being and public health literacy in the digital age.

The overall level of digital literacy among participants was found to be positive. Participants acknowledged the contribution of digital technologies to everyday life (X^- = 3.96) and recognized the power of social media in fostering social awareness (X^- = 4.02). However, their ability to distinguish the reliability of information in digital environments was relatively low (X^- = 3.26). This finding emphasizes the need for digital entrepreneurship–based awareness projects to prioritize data security, accurate information dissemination, and digital ethics. Strengthening these areas will not only enhance individuals' critical digital competencies but also foster a more responsible, ethical, and informed digital citizenship, particularly in contexts related to social awareness and public welfare initiatives.

One of the most striking findings of the study is that participants exhibited a high level of social awareness and empathy toward disadvantaged groups. Participants strongly agreed with the statements *"Seeing disadvantaged individuals in society affects me emotionally"* (X^- = 4.46) and *"Helping those who are less fortunate is an ethical responsibility"* (X^- = 4.38).

These results indicate that individuals are competent in accessing digital information and also demonstrate a certain level of sensitivity toward human values, solidarity, and social justice. Considering digital literacy and ethical awareness together suggests that the social use of technology may be associated with empathy and a sense of responsibility.

Among the limitations of this study are the restricted sample, which consisted of 160 participants from a specific region, and the use of self-reported data, which may partially limit the generalizability of the findings.

Beyond descriptive findings, the results of this study suggest that both digital literacy and e-health literacy play a critical enabling role in the prevention of violence against women. Women who possess higher levels of digital competence are more likely to recognize the existence of support mechanisms, access reliable information, and navigate technology-based applications safely and effectively. Similarly, e-health literacy strengthens women's capacity

to interpret health-related risks, seek appropriate support, and make informed decisions in situations of violence. Therefore, these competencies should not be viewed merely as technical skills, but as protective resources that enhance women's autonomy, resilience, and access to support systems. Strengthening digital and e-health literacy can thus contribute directly to violence prevention strategies by transforming technology into a meaningful empowerment tool.

Recommendations for future research can be outlined as follows:

- Develop user interface designs tailored to age and education levels to enhance the accessibility of digital support applications for women.
- Strengthen individuals' online information verification and source evaluation skills through comprehensive digital health literacy training programs.
- Promote digital entrepreneurship–based awareness projects within universities and non-governmental organizations to empower women against digital violence.
- Design public service announcements and social media campaigns aimed at raising societal awareness about digital ethics, data privacy, and secure information sharing.

These recommendations emphasize the need for a holistic approach that combines digital innovation, education, and social responsibility to create sustainable solutions in combating gender-based violence and improving health literacy in the digital age.

In conclusion, this study demonstrates that digital entrepreneurship in combating violence against women is not merely a technological innovation, but also a strategic tool for advancing human rights, social justice, and health literacy. When social awareness, digital competence, and ethical responsibility converge, digital technologies can become a transformative force for enhancing women's safety, empowerment, and equality.

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