



Literature Review

Enhancing Wellness and Crime Prevention
in the Pandemic among Immigrant Youth
and Women Survivors of Violence:
Development of an Interactive Mentoring
Application (APP)

*Vancouver and Lower Mainland
Multicultural Family Support
Services Society*



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Abstract:

Led by the Vancouver and Lower Mainland Multicultural Family Support Services Society (VLMFSS), Enhancing Wellness – M4Y is a 5-year research initiative that delves into the unique challenges faced by immigrant women and youth who have experienced violence or abuse during the COVID-19 pandemic in British Columbia, Canada. The first part of the literature review surveys existing scholarship that identifies the exacerbation of family violence during the pandemic, women's coping strategies, and current crime prevention initiatives at provincial, national, and international levels. The second part provides an overview and assessment of digital interventions designed to promote mental health and prevent gender-based violence before and during the pandemic. The review demonstrates that the pandemic intensified existing social and health inequalities, marginalization, and oppression among socially disadvantaged groups experiencing family violence. Immigrant and refugee women face multiple and systemic barriers to accessing resources and the gap persists in providing trauma-informed and culturally inclusive services across sectors. The review concludes that correlations between the scope of impacts, accessibility to support systems, and digital interventions for immigrant women and youth who have experienced violence during the pandemic remain understudied. Recommendations for incorporating digital technology in relationship violence prevention are discussed.

Utilizing the literature review as the guiding principle, online surveys and focus groups are key approaches to identifying support systems and tools best tailored to the target group's specific needs. Through an intersectional mixed-methods approach, the Enhancing Wellness-M4Y project provides substantial data analysis to inform the development of an interactive web app that emphasizes security, engagement, well-being, and equity. The research aims to center the perspectives of immigrant women and youth and build individual and organizational resilience within the diverse immigrant communities in responding to relationship violence through improved pathways to safety, resources, and self-empowerment.

Keywords: family violence; relationship violence; immigrant women; youth; COVID-19; coping; intersectional; digital intervention; crime prevention

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The Vancouver & Lower Mainland Multicultural Support Services Society respectfully acknowledges that we live, work and play on unceded Coast Salish territory, shared by the Musqueam, Squamish, Qayqayt, Katzie, Semiahmoo, Kwantlen and Tsleil-Waututh Nations.

As an immigrant, refugee and visible minority serving agency, we offer our solidarity and support as we strive for a more respectful collaboration and partnership with all peoples towards our collective path for Truth, Healing and National Reconciliation.

Ethics Review

This project has been reviewed and approved by the Community Research Ethics Board (No. 431). The approval applies to all research data, excluding the initial round of the online survey.

Research and Review

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Part 1. Introductions

1.1 Background, Objective of Study, Methods, and Limitations

Background

The unprecedented pandemic has had a severe, long-lasting impact on the economy and public health, disrupting every aspect of people's lives, work arrangements, and social activities. With the lockdown, economic uncertainties, and heightened stress levels, the dynamics of family and intimate relationships underwent intricate changes, resulting in an emerging concern of violence. Immigrant women and youth were disproportionately affected by COVID-19 due to an increased reliance on their spouses or partners for emotional, social, economic, and immigration-related reasons (Rai et al., 2020; Sabri et al., 2022; Vroegindewey & Sabri, 2022). Precarious immigration status, language barriers, and discrimination against racial minorities are vulnerability factors that led to reluctance to seek support (Fonteyne et al., 2023).

Gender-based violence (GBV) is described as “any act that results in or is likely to result in physical, sexual, or psychological harm or suffering to women, including threats of such acts, coercion or arbitrary deprivation of liberty, whether occurring in public or private life” (United Nations, 1995). The root cause of GBV is power and control, which stems from “inequality between men and women, with varying levels of inequality, based on intersecting identities, such as gender, race, ethnicity, civil status, (dis)ability, age, and sexual orientation among others” (UN Women, 2020a; Nelson et al., 2022). GBV takes many forms. It encompasses sexual abuse, stalking, sharing intimate images without consent, coercive sex, groping, rape, and femicide. GBV has been identified as a global public health concern and a development issue that impacts millions of women and girls, resulting in immediate and long-lasting health issues and economic problems (Government of Canada, 2024c; Russo & Pirlott, 2006). Women and Gender Equality Canada defines intimate partner violence (IPV), also known as domestic violence (DV), as any physical, psychological, sexual, financial, or spiritual harm caused by a current or former intimate partner or spouse (Government of Canada, 2024c). While IPV can happen to individuals of all genders and different socioeconomic and cultural backgrounds, women and girls are more likely to experience IPV perpetrated by men. Globally, one in three women is exposed to IPV; in Canada, 78% of victims of police-reported IPV in 2022 were women and girls (WHO, 2013; Statistics Canada, 2023c). In the same year, 184 women and girls were violently killed in Canada (Canadian Femicide Observatory for Justice and Accountability, 2022). Amongst the solved homicides in which the accused-victim relationship was identified, the proportion of women killed by their spouse or intimate partner was approximately 11 times higher than the proportion of men (43% vs. 4%; Statistics Canada, 2023c). GBV further adds a layer of vulnerability to immigrant women through their migration journeys as it intersects with other forms of marginalization such as language barriers, legal status, racism, and more (Ramage et al., 2023). Qualitative research further shows that Black women and newcomer women to Canada experience high levels of GBV (Government of Canada, 2024c).

During COVID-19, women and youth became most vulnerable to violence due to restricted living conditions (mandated by public health orders) where one was required to limit in-person social activities and reside with their immediate family members including their abusers in the confined environments of their home for an extended period (Evans et al., 2020; Nelson et al., 2022). According to Brodie et al. (2023), abusers used government restrictions to add weight to their coercive and controlling behaviors that amplified the frequency and constancy of abuse. The intensification of violence against women coincided with a reduction in services such as law enforcement or women's organizations to support survivors (UN Women, 2021). The pandemic also

restricted people from accessing resources for coping with stress or support services to deal with violence and pandemic-related health concerns for public safety. This trend has been referred to as the “shadow pandemic” to address the impact of domestic violence on global women at the onset of the pandemic (UN Women, 2020a).

Immigrants comprise nearly 23% of the Canadian population (Statistics Canada, 2022b). Yet, there remains a lack of attention to family violence experienced by immigrant communities despite the heterogeneous ethnic composition of Canada (Fonteyne et al., 2023). A small number of publications focus on the coping strategies used by immigrant women during COVID-19 to overcome the physical, emotional, and psychological adversities of violence in the Canadian context (Holtmann et al., 2023; Safar et al., 2023). Coping is considered a way to manage stress caused by the challenging situations of GBV through cognitive or behavioral efforts coupled with resources and access to support services (Garcini et al., 2022). It is important to understand the diverse range of coping mechanisms when developing programs and services that deal with the repercussions of GBV (Mantler et al., 2022; Rashidi Fakari et al., 2022). Furthermore, intervention and community programs have the potential to build individual, family, and community resilience when services are relevant and accessible to immigrant families (Jolie et al., 2021).

In the public health and anti-violence sectors, a transformative trend of digital interventions emerged as an alternative coping strategy, reflecting a growing awareness of mental wellness and the resilience of DV survivors. On the one hand, increased reliance on technology for safety and support among DV survivors resulted from social distancing mandates (Emezue, 2020; Weeks et al., 2023). On the other hand, the development of web-based safety aids such as *iSafe* and *myPlan* saw positive outcomes in reducing IPV exposure (Koziol-McLain et al., 2018; Ford-Gilboe et al., 2020; Ford-Gilboe et al., 2024). The *iHeal* app (previously *i CAN plan 4 safety*), a Canadian-based wellness app developed by researchers from Western University, the University of British Columbia, and the University of New Brunswick, was launched to promote safety and well-being by prioritizing women’s needs and choices. Supported by a nurse-led, equity-oriented, and violence- and trauma-informed lens, *iHeal* provides safety assessment, resources, and resilience-building tools for women and service providers (Ford-Gilboe et al., 2024). However, there remains a lack of research focusing on the needs and coping strategies used by immigrant women and youth survivors of family violence in the Canadian context. The situation was further complicated as support services became limited or unavailable for immigrants and refugees during COVID-19.

Objective of the study

This research aims to capture the experience of immigrant women and youth from broader cultural backgrounds in Canada. Recognizing that relationship violence has had a disproportionate effect on immigrant women and youth particularly during the pandemic, the first part of the literature review aims to gain a better understanding of the impact of COVID-19 on immigrant women and youth survivors of violence, as well as their coping strategies and current crime prevention initiatives in response to the pandemic. The second part provides an overview and assessment of digital interventions designed to promote mental health and prevent violence before and during the pandemic. Researchers emphasize that involving women experiencing IPV in both the research and software design process is “paramount to ensure usability and accessibility of the software and as a matter of equity” (El Morr & Layal, 2020, p. 8). The review provides insights into focus group question design and preliminary research findings in advancing support systems and tools for

immigrant women and youth fleeing violence. This research aims to explore the versatility of digital interventions in addressing GBV beyond English- or French-speaking populations and to bridge the gap between the urban and the rural by offering informed knowledge and resources that empower visible minority women and youth experiencing violence.

Research Questions

A targeted and informative literature review was conducted to identify trends and gaps in existing academic and grey literature to examine the need for further research. A rapid review through search engines such as EBSCO, Google Scholar, Pub med., and Government of Canada was surveyed with the following keywords: COVID-19, immigrant women, youth, young adults, family violence, intimate partner violence, domestic violence, gender-based violence, coping, crisis intervention, resilience, crime prevention, mental health applications, and digital interventions. All articles related to the pandemic were written in English and published in Canada or the United States between 2020 and 2024. In this review, studies from Canada and the United States are considered as both countries are similar in their resources and the functioning of society (Nelson et al., 2022). Based on the surveyed literature, different themes emerged and research questions were identified. The review seeks answers to the following questions:

1. How has COVID-19 impacted the experience of relationship violence among immigrant women and youth?
2. What coping mechanisms and crime prevention strategies were used to mitigate the impact of relationship violence with limited service availability and other factors during public health emergencies?
3. What role do digital interventions play in dealing with relationship violence and mental well-being? What are the strengths and limitations of utilizing digital technology to address relationship violence and maintain mental wellness?

Data Collection Method

The project is a 5-year research initiative funded by Public Safety Canada. It takes steps of preliminary literature review to identify themes and gaps in self-identified immigrant women and youth's experience of violence and coping strategies in response to violence before and during COVID-19. The popular definition of an immigrant is a person who has established a semi-permanent (in the middle of obtaining permanent residency) or a permanent (having obtained permanent residency or citizenship) residence in a "new place" other than that in which their immediate family habitually live (Gimeno-Feliu et al., 2019). In the Canadian context, an immigrant refers to a person who "has been granted the right to live in Canada permanently by immigration authorities," and those include both landed immigrants and naturalized citizens (Statistics Canada, 2023a). Alternatively, newcomers are commonly used to describe protected persons (including refugees), individuals who have applied for or received permanent resident status, or individuals who have received "approval-in-principle" from immigration authorities (Government of Canada, 2024b). As such, immigrants and newcomers are alternatively used in this project.

Two rounds of anonymous online surveys and two rounds of semi-structured focus groups will be implemented to collect evidence-based empirical data for analysis and app development. Online surveys are conducted via the secure Qualtrics platform to be distributed across the Province of BC via various postsecondary institutions, anti-violence, youth-serving, and immigrant-related community partners. Two rounds of virtual and in-person focus groups will be held in four metropolitan areas: Metro Vancouver, Fraser Valley, South Vancouver Island, and Okanagan prior to and after the application development. According to Census 2016, 88.4% of British Columbians are concentrated in a census metropolitan area (CMA) whereas 11.6% live outside the CMA (Statistics Canada, 2017). The population residing in the top 4 census metropolitan areas (Vancouver, Victoria, Kelowna, Abbotsford-Mission) accounts for 65% (just over 3 million people) of the total population in BC (4.6 million). Metropolitan areas are immigrant gateways for their emerging or established cultural and socioeconomic activities, sites, and intercultural connections (Price & Benton-Short, 2008); moreover, they offer better access to multicultural and settlement services from government or non-profit organizations when compared to rural areas. As such, we identify the four regions of BC: Metro Vancouver, Fraser Valley, Okanagan, and South Vancouver Island as our research regions. We acknowledge that immigrants from underserved and rural communities in BC are disproportionately affected by COVID-19. Future research is required to identify the trends and needs of these communities.

The sampling method is criterion sampling (Palinkas et al., 2015). We select participants who meet predetermined criteria that are focused and significant to the research. The eligibility criteria of participants for online surveys and focus groups are outlined as follows:

- a resident of British Columbia, Canada
- an immigrant woman or an immigrant youth (ages 19-25) of any gender identification
- impacted by violence and abuse before and during the COVID-19 pandemic (family violence, intimate partner violence, gender-based violence)
- from Chinese-speaking, Eastern European, Filipino, Persian/Afghani, South Asian, or Hispanic communities.

Limitations

British Columbia has the second highest immigrant population second to Ontario in Canada (IRCC, 2018). Among the immigration population, nearly 25% of British Columbians are a visible minority (5% of the population in BC is Indigenous; Government of BC, 2024a). The top three birthplaces among immigrants living in Metro Vancouver are China, India, and the Philippines where Mandarin Chinese or Cantonese (24.4%), Punjabi or Hindi (11.1%), and Tagalog (4.9%) respectively represent the top three alternative languages spoken in home (Statistics Canada, 2022a). The non-official languages spoken at home among BC's immigration population are closely followed by Korean (3.1%), Iranian Persian (2.6%), Spanish (1.7%), Vietnamese (1.4%), and Russian (1.1%) (Statistics Canada, 2022a).

To practice cultural humility and to ensure ongoing language and emotional support for the participants, the scope of research is purposively narrowed down and focused to match the strengths and available resources of the Vancouver Lower Mainland Multicultural Family Support Services Society (VLMFSS). As such, the proposed project seeks lived experiences from six immigrant communities (Chinese-speaking, Filipino, Eastern European, Persian/Afghani, South

Asian, and Hispanic-speaking communities) in British Columbia, Canada. The research acknowledges that the six linguistic communities do not represent the diverse immigrant communities that reside in BC, Canada. The research also does not include participants of women and youth of temporary resident status. More research on the effects of COVID-19 on immigrant IPV victims and their families in addition to the six groups as well as temporary residents is required to understand the impact of IPV during the pandemic.

1.2 Theoretical Framework

The frameworks of intersectionality and cultural humility underpin this research project. The study also applies the social-ecological model (SEM) in violence prevention research to map out four interrelated layers of risk factors (individual, relationship/interpersonal, community, and societal) that shape the experience of immigrant women and youth (Kelly et al., 2024; Krug et al., 2002). The first *World Report on Violence and Health* released by the WHO in 2002 delved into various forms of violence such as child abuse and neglect, youth violence, intimate partner violence, sexual violence, elder abuse, self-directed violence, and collective violence (Krug et al., 2002). The report extensively examines the scale of health and social impacts, risk factors, and prevention strategies on these four levels and this analytical model has laid the foundation for violence prevention work today.

Intersectionality was first conceptualized by Kimberly Crenshaw in her canonical work: *Demarginalizing the Intersection of Race and Sex: A Black Feminist Critique of Antidiscrimination Doctrine, Feminist Theory and Antiracist Politics*. Crenshaw (1998) addresses the marginalization of Black women's experience in legal systems and discovers the exclusion of Black women's experience in feminist theory and antiracist policy discourse respectively. She argues that a single-axis analysis, based on either gender or race, obscures the interlocking oppression of those who occupy both underprivileged positions in the experience of Black women (Crenshaw, 1998). The theory of intersectionality has been taken up across multiple disciplines to explain the ways in which an individual's experiences, including their encounters with violence, will vary depending on their age, race, sexuality, ethnicity, gender, class, dis(ability), and culture (Bowleg, 2012; Cramer et al., 2022; Fridman and Prakash, 2022; Sasseville et al., 2022). To borrow Lisa Bowleg's view in her application of the intersectionality framework to the public health sector (2012), our analysis contends that attempting to understand or address issues of social disparities via a single analytical category (e.g., gender or race or sexual orientation), "elides the complex ways in which multiple social categories intersect with social discrimination based on those multiple intersecting categories to create disparity and social inequality" (p. 1268). As such, an intersectional framework enables us to consider the multiple disadvantageous social positions that are embodied by immigrant women and youth and that each minority woman's and young adult's experience varies depending on social identity factors. Taking on the social-ecological perspective, immigration and employment status, the customary influence and involvement of in-laws, and cultural perception of women's status compared to men are risk factors unique to the experiences of immigrant women and youth.

Recognizing the paradigm shift from cultural competency to cultural humility (Agner, 2020; Campinha-Bacote, 2019), this research acknowledges the profound power imbalances embedded in our relationships with vulnerable communities as researchers and service providers. Cultural humility was coined by Melanie Tervalon and Jann Murray-Garcia in multicultural medical education and training to address power dynamics in doctor-patient relationships when delivering health care

to increasingly diverse populations in the U.S. (Foronda, 2020; Tervalon & Murray-Garcia, 1998). Historically, injustices to specific minority-identity groups have stemmed from certain dominant groups discriminating against minority groups and denying them the same power and privileges and such injustices have permeated many systems and institutions for centuries (Asnaani, 2023). Cultural humility not only critically addresses institution-level barriers and injustices, but it also demands “personal accountability in challenging institutional barriers that impact marginalized communities” (Fisher-Borne et al., 2015, p. 165). Cultural humility is essential to cultivating a respectful and ethical relationship and is acquired through lifelong learning, ongoing self-reflection, and self-critique.

Our research strives to achieve social justice by adhering to the cultural humility and social justice approach for evidence-based practices with minority-identity communities. This research closely follows four guidelines throughout the entire research process: exploring our own cultural identity, beliefs, and biases before research, practicing cultural humility as a continuous process, balancing culturally informed and individualized assessment of the presenting concern, and engaging self-education about specific cultural norms using a variety of sources (Asnaani, 2023). Even though Asnaani’s guidelines were established for clinical counseling settings and psychoeducational purposes, her insights provide guidance in navigating step-by-step practices when working with groups of diverse backgrounds.

Utilizing cultural humility and intersectionality as conceptual underpinnings, this research adopts Intersectional Mixed-Methods to centre the experiences of multiply marginalized immigrant women and youth (Watson-Singleton et al., 2023). The intersectional mixed-methods approach incorporates at least one quantitative and one qualitative method within a single study to develop a nuanced and comprehensive understanding of a social condition (Creswell & Plano Clark, 2018 as cited in Watson-Singleton et al., 2023). The intersectional mixed-methods would assist in identifying strengths, limitations, and meaningful strategies that could benefit immigrant women and youth coping with family violence during global health emergencies.

Part 2. The Impact of COVID-19 on Immigrant Women and Youth Survivors of Violence, Crime Prevention and Coping Strategies

To unfold the intricate impact of COVID-19 on mental health and wellness, particularly of immigrant women and youth survivors of family violence, statistics and findings from recent studies are presented. The review draws upon scholarly works and reports of different research focus across various disciplines. IPV, DV, GBV, and family violence are common terms employed to explain abusive or violent acts against another member of the family or partners in romantic relationships (Kashani & Allan, 1998). Department of Justice Canada defines family violence similarly. It encompasses IPV, child abuse and neglect, child(ren) who witness(es) abuse, elder abuse, forced marriage, female genital mutilation, and violence based on honour (Government of Canada, 2024a). Relationship violence is also widely adopted in violence against women (VAW) research as it gives attention to violent experiences that occur outside of familial relationships (Salgado & Gurm, 2020). Immigrant women and youth have different experiences of violence or abuse. To capture the experience of both targeted groups, family violence and relationship violence are interchangeably used to reflect the broader and less-discussed experience of violence such as sibling violence, in-law violence, and violence enacted by acquaintances such as visa sponsors amongst immigrant communities in addition to IPV or child abuse.

It is worth mentioning that many of the COVID-19 studies were conducted during the first year of onset (i.e., March to December 2020). These studies help illustrate how the pandemic and public health measures have caused heightened family stress and an increased risk of family violence against vulnerable women and youth. The following section provides an overview of the common themes and findings indicative of the correlations between COVID-19, family violence, crime prevention, and coping strategies.

2.1 The Impact of COVID-19 on Family Violence and Mental Wellbeing

Family violence increasing in prevalence and severity during the pandemic

Increased prevalence and severity of IPV, DV, sexual and family violence were found in North America during COVID-19 (Campbell, 2020; Emezue, 2020; Schrag et al., 2022). Several systematic and rapid reviews of studies have proved that the increase in family violence is highly correlated with stay-at-home mandates which resulted in more frequent contact between family members (Kofman & Garfin, 2020; Kourti et al., 2023; Letourneau et al., 2022; MacGregor et al., 2023; McNeil et al., 2022; Nelson et al., 2022; Peterman et al., 2020; Piquero et al., 2021). Health orders and movement restrictions enabled new forms of intensified violence in existing relationships (Wyckoff et al., 2023). The implications of quarantine policies encompass increased interpersonal contact as workplaces shift from in-person to remote, unexpected job losses, and increased responsibilities of domestic labor resulting from the closure of schools, daycares, and community centers (Rai et al., 2020). Added time and frequency of family contact and burnout have led to conflicts and violence among family members including siblings. Furthermore, financial abuse was evident as limited legal proceedings in family law court resulted in unpaid child support and reduced means of living for single mothers (Smith et al., 2022).

Data related to gender-based violence, domestic violence, or intimate partner violence is inconsistent amongst different cultures, nations, and regions but agreeably underreported across works of literature (Fonteyne et al., 2023). It has been observed in Canada that overall rates of family

violence and intimate partner violence increased regardless of victim gender in 2022 compared to 2019 and 2020 (Statistics Canada, 2023c). Studies have found increasing numbers of calls for police services and demands for emergency shelters (Bucarius et al., 2021; UN Women, 2021). Over half of the 266 shelters in Canada reported seeing women with more severe violence when received at the shelters; around 60% of shelters and transition houses received more requests for space, and 73% observed an increasing demand for outreach services since March 2020 (Women's Shelters Canada, 2022). During COVID-19, triple the number of calls were received by battered women shelters in Vancouver, British Columbia (Bradley et al., 2020). Furthermore, there was a 30% to 50 % increase in calls to crisis lines in Alberta, Canada, whereas incidents of domestic violence and reporting of sexual assaults increased by 22% during the pandemic in Ontario (Bradley et al., 2020). According to Statistics Canada (2022c), 53% of shelters reported an increase in demand for victim outreach services, and 49% of shelters reported an increase in the number of crisis calls received compared to the times before the pandemic.

In a national survey conducted by the Ending Violence Association of Canada, 46% of 376 GBV workers reported shifts in the frequency and intensity of domestic abuse since the pandemic's start (Trudell & Whitmore, 2020). Among these workers, 82% believe that DV incidents have increased in prevalence and severity. Gosangi et al. (2020) also identified a higher incidence rate and severity of physical violence during the early pandemic compared with the previous 3 years. 20% of the frontline workers in the anti-violence sector observed new ways violence was committed and 34% of the workers observed detrimental changes in mental health (Trudell & Whitmore, 2020). Moreover, Indigenous women and immigrant women are overrepresented in facilities of safe homes or shelters (Smith et al., 2022). In response to the shadow pandemic, Women and Gender Equality Canada (WAGE) allocated \$30 million for shelters and centers for female victims of sexual assaults, domestic violence, and those who are unsafe in their homes. The majority of the funding (approx. \$26 million) was distributed to 575 shelters for violence against women (VAW) across the country (Government of Canada, 2020).

Despite the increase in accessing VAW services, as of April 2020, the reporting of family violence by women decreased by 9% (Statistics Canada, 2020). This decline may be a result of barriers preventing women from reporting because they cohabitated with the abuser, perceived service inadequacies, and were concerned about the spread of COVID-19 (Statistics Canada, 2022c). Women who share parenting responsibilities may refrain from reporting domestic abuse since doing so necessitates continuing communication with the offender, which can be frightening given the possibility of additional violence due to further contact as well as the risk of mistrust (Archer-Khun et al., 2023).

Factors contributing to family distress and violence during the pandemic

As the trend became evident, many researchers began to explore the various factors through which the pandemic impacted family well-being and dynamics. Sutton and Beech (2024) observed a strong correlation between COVID-19, violence, and economic stability and further affirmed that COVID-19 was an exacerbator of IPV and femicide. Quarantine policies and recent job loss have led to an increase in the number of abusive spouses being isolated at home with the survivors, which increased day-to-day exposure to the perpetrators and yet limits the opportunity for survivors to leave their partner or seek assistance (Peterman et al., 2020; Sabri et al., 2020). Unemployment, food insecurities, low socioeconomic status, pre-existing mental health difficulties, and compromised physical space and privacy were all found to be vulnerability factors contributing to

intimate partner violence (McNeil et al., 2022). Several other factors were identified to be associated with intimate partner violence during the pandemic, including financial stress, caregiver or parenting burnout, and new forms of coercive controls were observed (e.g. exploiting the victim's fear to isolate the victim, or threatening to contaminate things or infect the victim) (Abdel Rahman, 2021; Emezue, 2020; Nelson et al., 2022). In addition to financial stress and social isolation, the unique pressures and burnout experienced by parents (e.g. worrying about children's education and physical/mental health, taking care of their children, and difficulties in following public health restrictions with children) were correlated to worsening mental health, increased alcohol consumption, and family violence (Gadermann et al., 2021; Letourneau et al., 2022; Perron-Tremblay, 2023).

Garcini et al. (2022) discovered that coping with misinformation about COVID-19, immigration-related stressors, and social isolation greatly impacted immigrant families in addition to health and economic concerns, family dynamic changes, and managing grief and losses in the family. Immigrant women exposed to inconsistent and unreliable information experienced symptoms of anxiety, panic attacks, fear or avoidance of leaving home, compulsions surrounding personal and public hygiene, and unexplained somatic symptoms (Garcini et al., 2022). With the data collected from the national questionnaire *Impacts of COVID-19 on Canadians* by Statistics Canada, reports have shown that compared to Canadian-born individuals, a higher percentage of recent immigrants self-reported being worried about their physical and mental health, their abilities to meet financial obligations and maintain social connections, and the possibility of family violence (Evra & Mongrain, 2020; LaRochelle-Cote & Uppal, 2020). Delayed responses or office closures from government agencies to process immigration applications added stress and uncertainty among immigrant families. Despite issues of heightened stress and exacerbation of mental health among immigrants, surveys and interviews conducted by Benjamin et al. (2021) showed that most clinicians in Ontario observed a decrease in refugees' access to primary care and community services. This means that immigrants' physical and mental health concerns were less likely to be addressed and alleviated during the pandemic.

Factors associated with violence against immigrant women and youth

Migration produces profound social changes not only in the home and host countries but also affects the experiences of immigrants and their descendants (Rumbaut, 2004). Rai et al. (2020) point out that as high as 21-40% of immigrants have experienced domestic violence in their lifetime, but the percentage may be less than the reality due to the lower likelihood of reporting. One of the reasons is that certain measures designed to capture DV experiences may be irrelevant to immigrant communities for they fail to capture the unique cultural nuances that perpetuate violence such as immigration-related abuse or abuse through in-laws (Goel, 2005; Voolma, 2018; Rai and Choi, 2022). Furthermore, immigrant children of visible minorities living with family violence are underrepresented in scholarly works (George et al., 2023). As such, an investigation of the diverse immigrant communities and their experience with relationship violence is imperative.

Applying the social-ecological model, individual risk factors of violence include biological and personal history factors, such as prior history of aggression and abuse, experience of violence, exposure to family violence, mental disorders, and substance abuse. Second, relationship or interpersonal factors refer to how social relationships increase the risk of victimization and perpetration of violence. The factors include inequality in intimate relationships, male partners' multiple sexual relationships, and male partners' substance abuse. For immigrant families, partners

or in-laws that accept gender inequality, immigrant status linked to one of the partners, low level of education, and low economic status are intertwined individual and interpersonal risk factors for relationship violence (Salgado & Gurm, 2020). Third, community factors examine the characteristics of social settings (e.g., schools, workplaces, and neighborhoods). Some community risk factors include but are not limited to harmful gender norms and racial profiling, high levels of poverty and unemployment, high rates of violence and crime, and availability of substances or weapons. As far as immigrants are concerned, moving away from their home countries means losing connection with family, friends, and communities and it may impose a higher level of dependency on the abusive partner (Salgado and Gurm, 2020). In addition, they experience stressors related to settlement and acculturation in the new community. Lastly, societal risk factors are norms embedded in the society that create an acceptable climate for violence, such as cultural norms that support violence as a way of conflict resolution, norms that entrench male dominance over women and children, norms that give priorities to parental rights over child welfare, or norms that support political conflict or the use of excessive force by police against citizens. Due to immigration policy concerns, the threat of family separation and deportation negatively affects children's health (Jolie et al., 2021). The sense of displacement and political turmoil in home countries could influence the overall well-being of an immigrant family in the host country in addition to encountering conflicting gender ideologies and racial discrimination (Ashborne & Baobaid, 2019). Self-disclosure and help-seeking among the immigrant South Asian women include multiple factors such as a lack of competence in language skills, fear of losing their children to the partners or child protection services, the experience of discrimination and racism and concerns of breaches of confidentiality by professionals due to close-knit communities (Kaur., 2020). Immigrant women are exposed to disadvantageous and multiple sources of oppression from individual to societal levels, which makes it difficult to break the cycle of violence (Sasseville et al., 2022).

Immigrant communities in Canada come from diverse ethnic and cultural backgrounds, family values and lifestyles; therefore, their experience of IPV or DV associated with COVID-19 is distinct from the Canadian communities (Rai and Choi, 2022; Mahapatra and Rai, 2019 as cited in Rai et al., 2020). This research perceives “immigrant” as a fluid concept that bounces between national and cultural belonging and identification as opposed to a singular, fixed, or homogenized entity. Immigrant communities are heterogeneous, and each incident of violence, whether it occurred before, during, or after migration requires nuanced care, understanding, and approaches (Rai et al., 2020). While we acknowledge cultural similarities, cases of immigrant women survivors should be deemed and supported on an individual basis. From a cultural perspective, collectivist family values in certain cultures such as Asian countries along with the effects of acculturation and immigration challenges led to the conditions that pose these communities with a greater risk of family violence (Balgamwalla, 2014; Goel, 2005; Voolma, 2018). Goel (2005) attributes this to South Asian womanhood ideals which embody a mindset whereby South Asian women are reluctant to advocate for themselves and reluctant to leave the abuser but to maintain family unity. Liu et al. (2023) argue that the lack of assertiveness at a young age and cultural ideas of honour lead to an increased risk of victimization of Asian Canadians. Contrary to immigrant men, immigrant women face greater barriers to integrating into the community through school or work because of isolation, cultural interpretation of their gender roles, and language barriers (Fonteyne et al., 2023). Immigrant and refugee women faced additional challenges to reporting GBV for fear of deportation, lack of knowledge of their rights, discrimination, and racism (Khanlou et al. 2020). For example, most victims are not aware that the Canadian Charter of Rights and Freedom ensures that it is not necessary for victims to remain in the relationship to stay in Canada. For temporary permit holders, victims may be able to apply for a special permit to stay in Canada temporarily (Chaze et al. 2020).

Fear induced by a lack of knowledge and information, along with community norms such as maintaining the privacy of family matters, patriarchal beliefs, and the expectation that women put the needs of their families before their own, make these communities even more vulnerable to family violence during the pandemic (Goel, 2005; Liu et al., 2023; Midlarsky et al., 2006; Rai et al., 2020; Salgado and Gurm, 2020).

Besides cultural attributes, structural barriers also contributed to violence against immigrant women during the pandemic (Ghidel et al., 2022). Research findings indicate that individuals affected by IPV from socially disadvantaged populations such as visible minority groups faced aggravated barriers to accessing IPV-related interventions during the pandemic (Ghidel et al., 2022). Due to several conditions, including but not limited to, restricted or nonexistent social safeguards, culturally insensitive mainstream social and health services, ambiguous immigration status, and greater partner surveillance and coercive control, immigrant women are more vulnerable to adverse pandemic consequences. Bradley et al. (2021) contend that COVID-19 has exacerbated social and health inequities within refugee and immigrant populations in Canada.

Women and youth experiencing violence during the pandemic

Family violence takes many forms, varying from violence between spouses, parent-to-child abuse, sibling violence, and violence perpetuated by the in-laws. Particularly, sibling violence (SV) is an understudied field (Perkins et al., 2022). High levels of family violence were observed during the COVID-19 pandemic outbreak (Abdel Rahman, 2021). Donagh (2020) observed that due to school closures, children and young people lost an escape from the only safe place outside of home where they experience abuse. The shutdowns of extracurricular activities and clubs further reduced opportunities for children and young people to connect with peers or trusted adults and seek support (Donagh, 2020). At home, sibling violence and marital conflicts are intertwined (Perkins et al., 2022). Children who witness abuse at home have a higher likelihood of being in the severe sibling victimization group (Tucker et al., 2014).

Similarly, women in abusive relationships went through an especially challenging period during the pandemic where health and support services were limited or unavailable. Mixed-method research points out that women reported an increased fear of domestic violence and poorer well-being, limited access to health care, and reduced access to informal support (MacGregor et al., 2023). Feelings of isolation and loneliness along with mental health concerns were commonly expressed by immigrant women (Fonteyne et al., 2023). Results of interviews with women, staff, and executive directors from GBV prevention service organizations also demonstrated that women experienced an increased lack of privacy, isolation, and an emotional toll of isolation (Mantler et al., 2022). Age also plays a role in influencing women's perception of the situation. Older women aged 50-67 found it difficult to leave an abusive relationship due to a lack of financial autonomy, technological barriers, and a generational normative belief around caretaking and homemaking (Safar et al., 2023).

Research participants have identified that increases in coercive control tactics, fear of unknown circumstances, and the lack of financial and social support were common concerns raised by mothers with young children (Archer-Kuhn et al., 2023; MacGregor et al. 2023). When there are children in the family, coercive control may, unfortunately, be manifested in attempts to control parenting arrangements or exercising control over the mothers through harsh criticism and judgments. Many mothers reported a persistent fear of the unknown, especially if the abusive

partner refused to follow public health restrictions, which could increase the child(ren)'s potential exposure to COVID-19.

Even though little is known about how COVID-19 has impacted immigrant women's experience with IPV, it is demonstrated that the preexisting challenges have persisted and even exacerbated due to pandemic-related policies and mandates (Ghidel et al., 2022). Before the pandemic, Okeke-Ihejirika et al. (2020) conducted a systematic review by considering 30 articles published between 1997 and 2017 to understand Canadian immigrant women's experiences and responses to IPV. While IPV may be experienced and perceived similarly by Canadian-born and immigrant women, immigrant women appear to be more vulnerable due to challenges related to acculturation. Three main challenges are identified: 1) hindrances in building independence (finances, community integration, employment, and housing), 2) surviving different types of abuse, and 3) difficulties in accessing services to survive abuse (immigration, education, health, and resilience) (Fonteyne et al., 2023). The ongoing changing and transitioning immigrant status further complicates family dynamics and jeopardizes stability (Okeke-Ihejirika et al., 2020).

Ng et al. (2024) analyzed data from interviews with Chinese Canadian youth and their experience of anti-Asian hate and racism during COVID-19 both in person and online through platforms such as social media, online forums, and community groups. The mental health of Chinese Canadian youth deteriorated due to explicit or implicit racism in conjunction with a lack of cultural competence in mental health services and limited resources (Ng et al., 2024). While this study is not specific to family violence, the experience of racism is equivalent to violence at the community level which could lead to poor mental health in minority communities.

Social Isolation, loneliness and depression in youth

Upon research, there seems to be no consensus on the lower and upper age limits of "youth." While the United Nations defines "youth" as those people aged between 15 and 24, the Government of Canada considers those between the ages of 15 to 29 as youth in the first *State of Youth Report* (Government of Canada, 2021). For this review, the broader definition (i.e., 15-29) is chosen to capture the experience of the younger generation during the pandemic. However, it is worth mentioning that the definition of "youth" is a fluid concept that reflects the overlapping period between adolescence and adulthood. Therefore, some literature may use "adolescents" and "young adults" to specify the age group studied.

The impact of COVID-19 manifested in the youth population in a unique pattern as schools and extra-curricular activities were suspended. While little is known about the youth experience of immigrant families related to family violence during the pandemic, mental health-related issues such as loneliness and depression were the popular research themes in terms of examining the effects of the pandemic on youth mental health.

In a comprehensive report published by the BC Centre for Disease Control (2021), young adults aged 18-30 comprised 17% of the BC population, and many reported that their households experienced financial difficulties and overcrowded living conditions due to a lack of affordable housing. Young adults were also more likely to lose their jobs than any other age group, and they had a higher risk of COVID-19 exposure due to frontline work. Their physical and mental health was also impacted negatively as mobility, social networks, and daily routines were disrupted.

The abovementioned trends were congruent with research findings. McQuaid et al. (2021) conducted cross-sectional research by distributing an online survey. The study identified three groups that experienced greater loneliness, depression, and anxiety during the pandemic: individuals with lower income (<\$50,000/yr), younger females (aged 18-29), and those living alone. The researchers speculated that the detriment of mental health might have been attributed to the removal of school, jobs, and social support, but they also acknowledged this was only their speculation. Another limitation of the study is that the sample is not ethnically representative, and it includes a larger proportion of females than males (77.3% vs. 21.2%). Yet, age, lower income, and solitude play a part in worsening mental well-being.

Additionally, a study done with a self-report questionnaire found that youths (19-24) who were using social media and checking pandemic-related news daily were more likely to self-report depression- and anxiety-related symptoms (Gill et al., 2022). The authors acknowledged that the generalizability of the data to the entire Canadian population is limited as a majority identified as female (74%) and from the Greater Toronto Area (77%).

Many other physical, social, and financial stressors proved to be significantly correlated to declines in mental health for youth. Some factors include having preexisting or chronic physical health concerns, having family members in potential COVID-19 hotspots (e.g., long-term homes, retirement homes, or correctional facilities), and having a decreased income (Gill et al., 2022; Hawke, Monga, Korczake et al., 2021). Transgender and gender-diverse youths also experienced substantial mental health impacts with high levels of service disruption and less support from family members (Hawke, Hayes, Darnay et al., 2021). Researchers further address the concern of over-pathologizing neurodivergent conditions as a form of disability that is parallel to the oppression experienced by those of non-binary gender identities in the field of medicine (McConnell and Minshew, 2023 as cited in Estrellado, J. E., & Balsam, 2023). Neurodivergent individuals experienced disproportionate health impacts and barriers to inclusive healthcare because public health communication during the pandemic failed to include the neurodivergent population (Hotez et al., 2023). Further research is required to understand the youth experience of minority race/ethnicity groups, immigrants and refugees, and communities of rural regions on the effects of COVID-19 (Farrell et al., 2023).

Although the factors and degree of mental health deterioration varied by age and research method, it was evident that maintaining social connections is essential for youth. Social distancing and staying-at-home orders due to the pandemic, as well as increased usage of social media, seemed to be highly correlated to youth's loneliness and depression.

Technology-facilitated GBV and cybercrime during COVID-19

New forms of gender-based crime facilitated by technology have developed in the past few years, especially during the pandemic as formal learning and socializing have moved to virtual platforms. Hango (2023) reviewed the results of four Canadian population-based surveys to investigate cyberbullying among youth and young adults aged 12 to 29. Cyber-victimized young adults were more likely to have experienced forms of victimization such as stalking, doxing, trolling, sextortion, and sexual harassment. According to Hango (2023), some groups are at greater risk of cyber-victimization, including Indigenous youth, sexually diverse and non-binary youth, youth with a disability, and girls and women of colour. Young women experienced a higher frequency of online abuse compared to young men, nearly doubling the prevalence rate (32% versus 17%). This gender

gap was even more pronounced when it came to receiving unwanted sexually suggestive or explicit material, where young women were nearly three times as likely to be targeted (22% versus 8%). Thus, the primary gender disparities seem to center around sexualized cyber-victimization, as there were no discernible differences between men and women concerning solely aggressive content without sexual overtones. Additionally, young women were twice as likely as young men to block individuals due to harassment (31% versus 13%) and to limit their online access (17% versus 10%). Yet, little research has been done on the impacts of cybercrime on immigrant youth.

Before the pandemic, the gender difference in vulnerability to cybercrime has also been observed by the European Institute for Gender Equality (EIGE, 2017), an independent centre and the primary source for information on gender equality in the European Union. EIGE (2017) collected and analyzed both primary and secondary data, arguing that women and girls are more likely to be targeted by cyber violence and suffer from serious physical, sexual, psychological or economic consequences.

Kingsbury and Arim (2023) analyzed data from 13,602 Canadian youth aged 12 to 17, drawn from the 2019 Canadian Health Survey on Children and Youth. They have concluded that the risk of cyber-victimization was found to be higher among gender-diverse youth and youths living with chronic conditions (particularly females and those living in low-income households). Cyber-victimization was also found to be consistently associated with a greater risk of poor general mental health and symptoms (e.g., depression, anxiety, eating disorders, suicidal ideation and attempt). Although certain groups of youth seem to be more vulnerable to cyber-victimization, the mental health consequences are similar for all adolescents.

In addition, technology-facilitated gender-based violence (TFGBV) was prevalent during COVID-19 (Peitzmeier et al., 2021; Schrag et al., 2022). Recent years have seen a dramatic increase in incidents of online misogyny and online GBV; and yet, attempts to address the issue of TFGBV through training and advocacy efforts have had limited success (Faith, 2022). In the *Technology-Facilitated Gender-Based Violence: BC Anti-Violence Worker Technology, Safety and Privacy Survey Summary Report*, George and Wong (2022) found that 89.06% of survivors have experienced TFGBV in British Columbia, Canada, and that may consist of “threats and harassment via text messages or social media, sharing of non-consensual nude images, location tracking and/or stalking.” Considering the alarming rate, there is a dearth of TFGBV education and programming resources across community organizations or academic institutions in Canada to combat GBV in online forms (Chen et al., 2024). Survey participants in previous studies resonated with this issue and identified the importance of increasing awareness and consistent educational resources surrounding tech safety (George and Wong, 2022).

Specific to immigrant and refugee women, Henry et al. (2021) found that technology was used as an “extended platform” to enact intimate partner abuse related to migration status, geographical isolation, and/or ethnic or religious backgrounds through common tactics such as impersonation, online harassment, stalking and manipulating overseas families. Survivors who did not reside with their abuser also raised concerns about a spike in technology-facilitated violence as a method to monitor and control survivors remotely (Peitzmeier et al., 2022). Furthermore, researchers discovered that those who have experienced sexual IPV pre-COVID are prone to experiencing sextortion during COVID-19; women of colour, LGBTQ individuals, and young adults more often experienced sextortion during the pandemic than other groups (Eaton et al., 2023). As such, researchers called for collaborations among all involved institutions from medical, legal, justice, education, and community-based partners to take on a bystander intervention approach to mitigate online violence and abuse (Chen et al., 2024).

2.2 Cycle of Violence, Coping Strategies, and Crime Prevention Initiatives

Cycle of violence and the importance of early intervention

Many researchers continue to examine the risk factors of GBV. In addition to various social, cultural, and economic determinants, the continuum between victimization and the perpetration of gender-based violence has been described as the cycle of violence. Etherington and Baker (2016) take on six theoretical perspectives to explain the linkage between victimization and the perpetration of GBV: social learning theory, trauma theory, power theory, attachment theory, neurophysiological model, and social information processing. All of which elucidate the root causes of the intergenerational cycle of violence.

Adverse childhood experiences (e.g., child abuse, neglect, and maltreatment) are highly associated with aggression and violence in adolescence and adulthood, and youths who increased their use of violence during adolescence were also more likely to perpetrate IPV in early adulthood (Etherington and Baker, 2016; Haj-Yahia et al., 2019; Herrenkohl, 2011a; Herrenkohl, 2011b). Haj-Yahia et al. (2019) collected data from 516 university and college students to examine the effect of exposure to family violence during childhood and adolescence (i.e., experiencing and/or witnessing parental physical violence and psychological aggression). The study found that exposure to family violence during childhood and adolescence was associated with high levels of current post-traumatic stress symptoms during young adulthood. The researchers argue that exposure to family violence negatively affects the development of cognitive schemas in children, continuing to direct their perceptions and behaviours as adults. Herrenkohl et al. (2022) provided a scoping review on life-course patterns of violence, including child maltreatment, youth violence, aggression, intimate partner violence, and elder mistreatment. Bozzay et al. (2017) also explore how family violence is linked to externalizing behaviours in youth (e.g., aggression, substance use, and rule-breaking) as well as any gender-specific trajectories by collecting data through questionnaires and interviews from 237 youths aged 10-17 and their parents. Results indicated that witnessing and directly experiencing family violence had different effects on youth's externalizing behaviours. While witnessing family violence was related to greater difficulties constraining impulsive behaviour, direct abuse experience was related to externalizing via negative emotionality. Wagers et al. (2021) utilized data from a baseline and four follow-up assessments collected between 2000 and 2012 from 1170 male participants found guilty of a serious offense in U.S. juvenile or adult court and involved in a longitudinal study (i.e. Pathways to Desistance Study). Findings showed that victimization and perpetration of emotional intimate partner violence were common experiences among the participants, with 73% reporting emotional IPV victimization and 70% reporting emotional IPV perpetration. Consequently, researchers emphasize that awareness of the repetition of violence within families and providing early prevention are critical to preventing violence in young adulthood (Bozzay et al., 2017; Wagers et al. 2021).

Willie et al. (2018) recruited 212 women experiencing intimate partner violence aged 18 to 58 years and conducted interviews to investigate the effects of their experiences of adverse childhood events (ACE) on their sexual and mental health. The findings indicate that women in the profiles characterized with moderate and high severities of adverse childhood events were more likely to report greater severity of IPV victimization. The relationship between ACEs and IPV victimization is intricate, and more research is needed to gain a comprehension of the connection between high ACE profiles that were comprised of women experiencing IPV who also reported the highest

percentage of witnessing maternal and paternal IPV victimization, childhood physical, sexual, and emotional abuse (Willie et al., 2018).

In another longitudinal study conducted by Falla et al. (2022) across 12 months that examined the cycle of violence from peer bullying victimhood to bullying perpetration among adolescents from grades 7 to 10, the researchers concluded that school children who were bullied had a higher tendency to develop aggressive bullying behaviours in the future, with boys being the most likely to become an aggressor after being victimized. The study further suggests that cognitive restructuring may help improve moral engagement and may unlink victimization and aggression.

In a study with immigrant South Asian women in BC, it took women considerable time to understand family violence and its impact on their health and safety, resulting in multiple visits for medical attention and police intervention. The health impacts physical and mental wellness including treatment for burns, strangulations and sexual assaults. The factors limiting disclosures, increasing their vulnerability and susceptibility to violence included migration and complex familial and socio-cultural factors (Kaur, 2020).

Coping strategies for immigrant women and youth experiencing violence

Coping is not a singular mechanism, but rather it is a twofold adapting strategy that simultaneously applies self-regulation skills and resorts to external resources to mitigate stress or impact of violence in an environment. As Compas et al. (2001) illustrate, any coping mechanism is dynamic and ongoing. It is viewed as a purposeful response that reacts to the changing demands of a stressful situation in hopes of resolving the stressful relationship between the self and the environment (Compas et al., 2001). In this view, survivors would resort to both psychological and social coping resources that could help manage stressful events (Taylor & Stanton, 2007). Research has further demonstrated that the degree of controllability of a stressful event may affect the type of strategies used and their effectiveness in reducing the intensity of a stressful situation (Alicia Pérez-Tarrés et al., 2017). Depending on the level of perceived controllability, three types of strategies may be employed: problem-oriented, emotion-oriented, and avoidance-oriented (Rashidi Fakari, 2022). Avoidance-oriented style coupled with the emotion-oriented style is commonly used when survivors sense that they have less control of the given stressful situation. Emotion-focused strategies deal with some aspects of the violence itself with attention to emotion control and management (Green et al., 2020). Avoidance-oriented strategy, on the other hand, allows the survivors to shift focus to other aspects of their lives while deflecting the conflicts between self and the intimate partner (Alicia Pérez-Tarrés et al., 2017; Rashidi Fakari, 2022). Nonetheless, researchers agree that coping is a dynamic and ongoing process subject to situational and psychological variables. Other researchers view that partial exposure to adversity such as the pandemic could help develop resilience and capacity in youth to handle stressful situations (Dvorsky et al., 2020). Through coping, survivors develop resilience to endure or minimize negative impacts in the event of adversities or crises and work toward self-transformation (Holtmann et al., 2023). Jolie et al. (2021) highlighted the importance of building resilience at individual, family, and community levels to improve IPV interventions against immigrant communities. However, Boucher (2023) cautions against overt reliance on the use of resilience as it diminishes the role the nation-state plays in addressing structural inequalities.

Okeke-Ohejirka et al. (2020) found that immigrant survivors tend to use emotion-focused coping methods rather than problem-focused coping strategies to deal with IPV. When domestic violence happens, immigrants may be reluctant to seek support and access safety due to language barriers, prejudice among public service providers, and fear of police (which often stems from the

nation of origin) (Fonteyne et al., 2023). For example, immigrant youth may choose to maintain secrecy or to take on additional household responsibilities when witnessing IPV in the family (George et al., 2023). When reaching out for help, immigrant women and youth were confronted with inaccessible or dismissive services (Mantler et al., 2022; George et al., 2023). As a result, when immigrant women and youth come forward about their experiences with domestic violence, they frequently turn to neighbors, friends, relatives, religious or community leaders, or non-governmental organizations in their community for informal support (Fonteyne et al., 2023; Sabri et al., 2022).

These findings resonate with a pre-pandemic systemic review by Okeke-Ihejirka et al. (2020), in which they highlight how immigrant women respond to IPV differently compared to Canadian-born women. For instance, immigrant women tend to prioritize the well-being of their families rather than their individualized interests. They respond to IPV with more avoidant, emotionally and internally focused coping strategies (e.g., self-blame, normalizing the abuse, or avoiding confrontations), and prefer informal support systems. The researchers discovered that immigrant women's reluctance to access formal help is primarily due to the failure and lack of services and adequate policies (Okeke-Ihejirka et al., 2020). Although this study was based on articles published from 1997 to 2017, it provides a scoping review that describes how cultural values influence immigrant women's coping strategies and responses to IPV.

Sharma and Khokhar (2022) identified a few common coping strategies used by the victims of domestic violence during the lockdown period: 1) ignoring the incident, 2) talking to a friend or family member, and 3) doing yoga or meditation. Only 1 woman reported the domestic violence incident to police. Mantler et al. (2022) conducted a mixed-method study and collected Qualtrics survey data from 95 Canadian women living in Ontario who were survivors of IPV to share their coping mechanisms during COVID-19. Throughout the pandemic, women survivors of IPV experienced an increased lack of privacy, isolation, and the emotional toll of isolation. While women continued to explore ways to cope physically, socially, and financially, the study seconds that an avoidant style (i.e., self-blame) of coping strategy was most used during COVID-19 (Mantler et al., 2022). Access to financial resources is essential to women's coping. Women in the study emphasized the significance of access to community centers, walk-in groups, and in-person services even throughout the pandemic, as these resources provide them a temporary respite from the abuser. They also highlighted their need for education to help them identify signs of IPV and develop safety planning strategies. This study is not specific to immigrant women, yet it captures the influence of COVID-19 on coping behaviours of women experiencing IPV.

Abularrage et al. (2024) conducted in-depth interviews in 2020 and 2024 with 44 immigrant women residing in New York City, and four themes were identified to describe their coping strategies and strengths during the pandemic. Many immigrant women expressed that their responsibilities as mothers and their children became sources of strength for them even though they felt pressured and alone to be the primary caregivers for the family. Immigrant women's resilience was also shown in their proactiveness in exercising self-care practices, engaging in a variety of hobbies, building networks through online communities, and so on. Many women successfully leveraged resources, technology, and online platforms to cope with constrained circumstances and retain resilience (Abularrage et al., 2024). Similarly, Sabri et al. (2022) noted that immigrant women relied on both external (e.g., informal community support or accessing social service agencies) and internal (e.g., optimism, faith, beliefs) sources of strength. Ozturk et al. (2019) resonate with this and note that "having faith in God or believing that God would give divine retribution was the primary informal support for immigrant women with IPV" (p.21). Holtmann et al. (2023) explored resilience theories

that explained how Canadian migrant and refugee women relied on internal and external resistance strategies such as cognitive, emotional, and behavioral shifts in response to DV or IPV.

Research on coping strategies by youth experiencing family violence is scant. In a qualitative analysis of 45 youth participants from Quebec, Alvarez-Lizotte et al. (2020) identified multiple forms of violence against youth within the life course trajectories (family, school, work, romantic relationships, friendship, and self-select significant life events). Specific to IPV exposure, three quarters have experienced one-way violence from the male parent to the female parent, where 17.8% experienced bidirectional violence and 6.7% witnessed violence against the father from a stepmother. Researchers have also used expressions of *direct* or *indirect* experiences of violence to differentiate the former from the latter (George et al., 2023). The impact of violence could vary from childhood to adolescence, or continuing to adulthood (Alvarez-Lizotte et al., 2020). Youth participants highlighted one significant helpful factor, which is for the IPV to terminate, and to do so, access to education or resources that recognize the signs and consequences of violence, and a better grasp of intervention strategies are necessary. Researchers concluded with five helpful factors: 1) emotional support, 2) material help, 3) professional help, 4) distancing strategies, and 5) opportunities to experience success and discover one's strengths and abilities (Alvarez-Lizotte et al., 2020).

George et al. (2023) discovered different dominant roles that immigrant youths felt compelled to take on as coping strategies when tension escalated between their parents: protector and provider, peacemaker, and challenger. This adds additional challenges to the life trajectories of youth as they were demanded to take on these roles at a young age. The lack of culturally sensitive services, distrust towards social institutions, and poverty perpetuated their experience of violence as adolescents (George et al., 2023). Trauma-informed and culturally appropriate approaches implemented at primary, secondary, and tertiary levels across health, justice, and community-based sectors are essential to the well-being of immigrant youth experiencing violence.

Crime prevention and current initiatives and recommendations in addressing GBV

Findings from the abovementioned studies indicate the resilience of immigrant women yet alludes to the importance of accessibility and cultural sensitivity as major considerations when providing resources, services, and education for survivors of IPV. These messages resonate with Sasseville et al. (2022), who provided a literature review of 56 articles on the vulnerability to IPV among three groups of women (i.e., women with disabilities, elderly women, and immigrant women). Sasseville et al. (2022) recommended several actions and strategies to prevent IPV in women with minority status, such as adapting screening and assessment tools for each of the specific groups. The researchers also discussed the conditions required for the prevention to be successful, including interdisciplinary training, intersectoral collaboration, and a community-based participatory approach.

Taking a more proactive approach by preventing gender-based violence and cybercrime from happening in the first place has become a public health challenge. Public health approaches to prevent gender-based violence can be categorized into three different levels: primary, secondary, and tertiary prevention (Kirk et al., 2017). Primary prevention typically refers to movement and education designed to prevent violence from occurring. Secondary prevention refers to early intervention that aims to circumvent the progression or recurrence of violence. Tertiary prevention is providing services or treatment as responses to the result of violence (Kirk et al., 2017). It is

important to tailor prevention strategies to the needs of marginalized communities and reduce barriers to accessing inclusive and culturally safe services.

To prevent gender-based violence, there have been numerous initiatives and social campaigns carried out by international organizations (e.g., United Nations, European Institute for Gender Equality) and by Canadian governments and organizations (e.g., Women and Gender Equality Canada, Public Health Agency of Canada, BC Public Services, etc.). One of Canada's most important and transformative initiatives is the *National Action Plan to End Gender-Based Violence* developed through the collaboration between Canadian federal, provincial and territorial governments and agencies. As a strategic framework for action, the *National Action Plan* provides guiding principles and goals, aiming to prevent gender-based violence through five overarching pillars. The five pillars include (1) Support for victims, survivors and their families, (2) Prevention, (3) Responsive justice system, (4) Implementing Indigenous-led approaches, and (5) Social infrastructure and enabling environment (Government of Canada, 2022). The Government of B.C. (2023) also launched the *Safe and Supported: B.C.'s Gender-Based Violence Action Plan* and published a document outlining the actions taken by the government to support survivors. In summary, actions were taken to (1) increase safety and supports for survivors, (2) recognize and lift up Indigenous-led approaches, and (3) break cycles of violence through prevention, health and accountability. As part of the National Youth Initiative, The Public Health Agency of Canada (2022) published the *Pride Guide 2022: Youth Strategies for Tackling Gender-based Violence in Our Schools*. A group of youth from a gender-diverse community participated in the project and collectively developed strategies that could be implemented in schools to promote wellness and diversity.

On a global scale, international organizations also noticed the worrying trend of technology-facilitated gender-based violence and therefore published reports and infographics to raise public awareness. The United Nations Educational, Scientific and Cultural Organization (Chowdhury and Lakshimi, 2023) published a report regarding technology-facilitated gender-based violence and generative AI. It has been found that both AI models generate cyber-harassment templates, and the researchers emphasized that generative AI developers, technology companies, and governments need to collaborate and create measures to combat these types of harms. In *Prevention: Violence against Women and Girls & COVID-19* (UN Women, 2020b), the authors compile practices, strategies, services, and social campaigns that address technology-facilitated violence against women and girls during the pandemic. The authors further proposed recommendations for governments, organizations, and internet intermediaries alike in supporting women survivors of violence through maintaining specialized helplines, strengthening the awareness of women and internet users, providing tips and resources to identify online harassment, other forms of technology-facilitated violence, and so on.

In light of this, important measures are forming at legislative and community levels to combat cyber crimes provincially and nationally in Canada. The BC Intimate Images Protection Act outlaws the act of non-consensual distribution of intimate images (Government of British Columbia, 2024b). The BC Society of Transition Houses offers toolkits, resources, training, and education on technology safety and crime prevention (BCSTH, 2022). The Canadian Centre for Child Protection (C3P) is pushing to pass Canada's Online Harms Bill (Bill C-63) and provides research materials, initiatives, and resources to safeguard children and youth (Canadian Centre for Child Protection Inc., 2024). This includes websites such as *Cybertips.ca* and *NeedHelpNow.ca* that are dedicated to

supporting families and youth responding to online sexual abuse or exploitation of children and youth.

Part 3. Digital Interventions to Cope with Gender-Based Violence and Mental Health

Digital interventions have presented positive outcomes in addressing GBV including improved safety planning process, less decisional conflicts, and better accessibility and equity for IPV survivors (Ghidel et al., 2022; Glass et al., 2020; Sabri et al., 2021). Yet, involving digital interventions to address safety and mental health also comes with limitations. This part of the literature review provides an environmental scan of digital interventions for coping with gender-based violence and mental health concerns. Articles are included to explore the trends, advantages, and limitations of implementing digital interventions for immigrant women and youth survivors of family violence.

3.1 Digital Interventions Addressing Gender-Based Violence

Before the pandemic, many digital tools have been developed to support survivors of gender-based violence. These include mobile applications, web-based platforms, and online social media modalities. Research has demonstrated that technology-based resources rein in their immediacy, 24/7 support, and virtual viability (Emezue, 2020; Glass et al., 2010; Koziol-McLain et al., 2018). Furthermore, digital self-help interventions complement existing support systems in response to IPV, mitigating the urban-rural divide, reducing social isolation and stigma, and providing opportunities for self-reflection and coping (Micklitz et al., 2023).

Eisenhut et al. (2020) conducted a systematic online search, identified 171 mobile applications that address violence against women, and sorted them into five categories by their main functions, which are emergency, avoidance, education, reporting and evidence building, and supporting apps. Specifically, a vast majority of apps (46.78%) use short-term emergency functions, and other functions may include educating users about violence against women, connecting users to resources and organizations, reporting incidents, building evidence, and offering tools to avoid at-risk situations.

To examine the effects of digital interventions on survivors' mental health, Emezue et al. (2022) identified 3210 studies but retained studies with 17 randomized controlled trials (RCT). Despite the lack of diversity, 4 out of 17 research focused on vulnerable communities from Indigenous women in New Zealand, Chinese women, Spanish women, and substance-using women. Emezue et al. (2022) discovered primary and secondary outcomes of digital interventions for survivors. Primary outcomes include significant improvements in depression and anxiety among survivors within three months after intervention, but the effect faded after three months and there was no significant effect on PTSD. One significant finding from this research related to crime prevention is that digital interventions reduced survivors' physical violence and sexual violence victimization (Emezue et al., 2022). Regarding psychological violence victimization, an unanticipated increase was found within 6 months of intervention, but a small reduction after 6 months. Researchers speculated the delay in intervention effect could be due to survivors trying out and mastering new coping and safety strategies. In short, Emezue et al. (2022) and their meta-analysis demonstrated the benefits of using digital interventions to improve mental health and reduce IPV victimization among survivors in the short term. Another research noted additional effects of digital interventions, such as conflict reduction and improved engagement with safety strategies by the myPlan app (Glass et al., 2010). Ford-Gilboe et al. (2024) demonstrate that the iHEAL app is perceived as acceptable and safe for women in the transition of separating from an abusive partner. This research further proved positive effects on women's quality of life, PTSD symptoms,

depression, confidence in managing daily life, and reduced IPV severity that sustained over a year. However, there is still a lack of evidence regarding the effect of digital interventions on survivors of multicultural backgrounds (Emezue et al., 2022).

On the other hand, technology may pose a barrier to the victims of violence. Ghidei et al. (2022) conducted a qualitative study with workers providing services related to anti-violence to individuals affected by IPV during COVID-19 in Alberta, Canada. The study focused on service providers' experiences and perspectives regarding the indirect sources of information about the virtual delivery of IPV interventions. Due to their abusers' control, unstable or unreliable internet connections, inability to afford the necessary devices for virtual support, as well as a lack of culturally appropriate resources, these individuals find it more difficult to access and use IPV-related interventions safely because of the digital divide, which is characterized by unequal access to safe virtual platforms (Trudell and Whittmore 2020; Rossi et al., 2020). While the study is limited to the service providers within Alberta and does not include the voices of IPV survivors in other provinces of Canada, it stresses the importance of creating legislative measures to reduce the digital gap by providing funding for underprivileged communities to have more access to digital technologies and dependable internet. Also, ensuring antiviolence organizations receive sustained funding is imperative to strengthening culturally relevant, holistic, trauma- and violence-informed, and virtually deliverable IPV interventions.

Schafar et al. (2023) noticed that more technological interventions focus on addressing secondary and tertiary prevention of IPV (i.e., response interventions). The researchers then integrated primary IPV prevention strategies into a digital parenting chatbot program (ParentText) and developed approachable content about healthy relationships by incorporating cartoons and videos. The program consists of five components: “gender-equitable behaviors and attitudes,” “involved and equitable co-parenting,” “equally distributed workload,” “conflict resolution skills,” and “effective communication” (Schafar et al., 2023). The results suggest there is room for refinement concerning user engagement as more than three-quarters of participants dropped out from the study by day 11, and only 15% of participants viewed all five relationship topics (Schafar et al., 2023). As a result, the effectiveness of the IPV prevention content and materials remains unclear.

While apps have the potential to influence interventions, further research is needed to evaluate the data safety, efficacy, and sustainability of apps. In response to concerns regarding user safety, some researchers have suggested several strategies to reduce online abuse and surveillance of the abuser. For example, Freed et al. (2018) recommended refining authentication mechanisms to distinguish the abuser from the survivor. Integration of covert authentication, location removal, passcodes, one-click access to violence hotlines into the apps, and detection mechanisms of spyware can also be useful (Freed et al., 2018).

It is evidenced that technology-based interventions were effective, especially in screening, disclosure, and prevention (El Morr & Layal, 2020). The majority of survivors also found digital interventions beneficial and satisfactory. Many felt safe using the applications and benefited from safety planning, receiving support, and taking action to leave the abusive relationships (Ford-Gilboe et al., 2020 as cited in Emezue et al., 2022; Hegarty et al., 2019). Yet, more research and development in functions dedicated to enhancing safety and equity on digital platforms is needed (El Morr & Layal, 2020).

3.2 The Trend and Implications of Using Mental Health Applications

Usage and features of mental health apps during COVID-19

Aside from the implementation of digital tools for coping with gender-based violence, there is a prominent trend of using digital interventions for mental health among the general population during the pandemic. Between April and July 2020, Sorkin et al. (2021) administered a survey of 5907 residents in the US recruited through an online crowdsourcing platform commonly used in behavioral science studies (Amazon Mechanical Turk) to examine whether the self-reported use of digital mental health tools increased during the COVID-19 pandemic. Associations were found between COVID-19 case rates, depressive and anxiety symptoms, and the likelihood of using mental health forums, websites, apps, as well as phone-based and text-based crisis lines. Wang et al. (2023) analyzed downloads and user activity data of the 16 most popular mental health apps, and most apps showed an increase in the number of downloads within two months since the outbreak of COVID-19 (i.e. March to May 2020), compared to two months prior (i.e. January to March 2020). The findings confirmed increased downloads of mental health apps especially during the COVID-19 pandemic but also identified gaps and opportunities to address the shortcomings of evidence-based design, effective assessment, and integration to workflows in the health sector. Lagan et al. (2021) downloaded and evaluated 278 mental health apps to investigate their functionality, and most overlap in terms of their features, with mood-tracking and journaling being the most common ones. The most popular functions across the apps are interactive tools for coping, stress management, and meditation exercises (Jaworski et al., 2021; Wang et al., 2023). Overall, mental health apps appear to be a scalable, accessible, and effective solution to enhance mental well-being in the short term (Catuara-Solarz et al., 2022; Jaworski et al., 2021).

In a rapid review conducted by Strudwick et al. (2021), 31 mobile apps and 114 web-based resources (e.g., telemedicine, virtual support groups, discussion forums, etc.) were identified to be available to support Canadians' mental health. The digital interventions and effectiveness varied greatly in terms of their purpose, approach, design, cost, and targeted user group, and the majority of them were found to be effective in reducing symptoms of PTSD, anxiety, depression, and loneliness (Emezue & Bloom, 2021; Strudwick et al., 2021).

In terms of user demographics, Aziz et al. (2022) noticed a higher percentage of users in adults (aged 24 and above) than emerging adults (aged 15-24 years). It is also observed that more men are inclined to open mental health apps than women (Aziz et al., 2022). On the other hand, Vera Cruz et al. (2023) discovered that nearly twice more users relied on apps to improve their wellbeing than those using the apps to address mental health problems (43% vs. 18%). Vera Cruz et al. (2023) further affirmed that the use of smartphone apps for mental health and wellness is growing, particularly among younger adults and women. Both propose that mental apps should work towards improved user engagement and retention for lasting influences (Aziz et al., 2022; Vera Cruz et al., 2023).

Concerns and limitations of mental health apps

Despite the wide use and variety of options, the above researchers seemed to agree on a lack of evidence-based and safe resources (Sorkin et al., 2021; Strudwick et al., 2021; Wang et al., 2023). No correlations were found between the popularity, overall quality, and the evidence of clinical effectiveness of the app (Wang et al., 2023). Larsen et al. (2019) reviewed 73 apps and found that

scientific language was frequently used to support the effectiveness claims in app descriptions, but high-quality evidence is not commonly described. Most importantly, researchers remind us that mental health solutions should not be a substitute for violence against women interventions (Eisenhut et al., 2020).

Several issues of usability have emerged, including user's difficulty in using the technology, mistrust of the technology or data security, and poor connectivity. Alqahtani & Orji (2020) employed thematic analysis on 13,549 reviews of 106 mental health apps from App Store and Google Play, finding that the most complained weaknesses of the mental health apps included usability issues, poor customer services, unaffordability, lack of data security and privacy, as well as the lack of variety of options, personalization, control, and trust. Apps offering adaptive functionalities received high ratings, and in contrast, poor usability is found to be the most common reason for abandoning mental health apps, which leads to poor user retention (Baumel et al. 2019).

To address the concerns and barriers, several researchers have made recommendations for future app development. Jaworski et al. (2021) suggested ways to increase user engagement and retention, such as motivating users to complete actions, tools, and assessments on the first day of use. Other strategies include onboarding questions to help tailor the in-app content to the user's intentions and preferences, as well as regular dissemination of new app content. Similar suggestions have been raised by Figueroa and Aguilera (2020), who emphasized the importance of easy-to-navigate user interfaces, tailored vocabulary, and outreach programs and training for those with low-tech skills. Werntz et al. (2023) argue that human-supported digital mental health intervention may be more effective than non-supported applications.

Alqahtani & Orji (2020) listed 13 design recommendations for future mental health app developers to improve users' engagement and retention, such as employing participatory design during the design process, conducting an extensive evaluation of the apps before launching, providing adaptive and customizable functionalities, providing information of mental health disorders and effectiveness of the methods used in the app. Furthermore, user control over privacy and preferences, customer service, data storage, and offline mode are additional desired features to enhance security, engagement, and retention (Alqahtani & Orji, 2020). The researchers suggested these recommendations can apply to various kinds of mental health app functions (e.g. meditation, mood tracking, social support, games, etc.). In addition, empathy-driven design, multidisciplinary ideation, and experimentation through prototyping are recommended for optimizing collaboration, user engagement, immersion, and motivation in digital mental health intervention (Scholten and Granic, 2019).

Part 4. Conclusion: Digital Interventions Addressing Violence against Immigrant Women and Youth

Summary

The global pandemic of COVID-19 presented unprecedented challenges to women and youth in abusive relationships. Uncertainty, health crises, and quarantine orders significantly altered work arrangements and family dynamics. Women and youth in abusive relationships were exposed to increased contact, stress, and exposure to violence as the abusers adapted new coercive control tactics to instill fear and control in the victims (Archer-Kuhn et al., 2023; Brodie et al., 2023). The situation is further compounded by social service-reduction and shutdowns. Decreased or insufficient accessibility to government, medical, or social services are significant stressors that negatively impact one's mental health during the pandemic. IPV or DV cases were underreported in Canada due to close contact between victims and abusers despite the increasing prevalence and severity of family violence.

The pandemic disproportionately impacted immigrant families due to institutional barriers confronting women and youth of minority groups on top of exposure to family violence. Immigrant families face intersectional challenges such as precarious immigration status, language barriers, and implicit or explicit racism, contributing to vulnerability factors of IPV experiences (Fonteyne et al., 2023). Furthermore, there remains a lack of rigorously evaluated interventions to improve safety, mental health, and empowerment outcomes for immigrant women experiencing violence (Sabri et al., 2021). Immigrant women tend to cope in avoidance-oriented or emotion-oriented styles particularly due to disempowerment in the relationship compounded with systemic disadvantages. Yet, women survivors demonstrated resilience by exercising self-care practices, engaging in various hobbies, building networks through online communities, and leveraging resources, technology, and online platforms to cope with constrained circumstances (Abularrage et al., 2024).

The development and reliance on digital interventions to address GBV and mental health concerns during and after the global pandemic are on the rise. In addition to safety features, smartphone apps are accessible and alternative resources for coping with stress and anxiety through popular interactive tools such as mood tracking, stress management, and meditation exercises (Baumel et al., 2019; Jaworski et al., 2021; Wang et al., 2023). Research further demonstrates that digital interventions are effective in reducing the victimization of physical or sexual violence of IPV survivors (Jaworski et al., 2021). Considering the efficacy, strengths, and limitations of mental health and safety apps, researchers highlight the importance of ensuring users have access to evidence-based and evidence-informed technologies or enhancing users' skills in making informed decisions around the claimed efficacy (Sorkin et al., 2021). Furthermore, more research and focused attention should be given to equity-related considerations in app development (Strudwick et al., 2021) due to a lack of evidence regarding the effect of digital interventions on survivors of multicultural backgrounds (Emezue et al., 2022). The correlations between the scope of impacts, accessibility to support systems, and digital interventions among immigrant communities remain understudied.

Table 1.1 Crime prevention and intervention strategies at primary, secondary, and tertiary levels via digital means

Intervention Strategy	Primary Intervention	Secondary Intervention	Tertiary Intervention
Crisis Support			Dial 911 24/7 hotlines 24/7 transition housing/safe homes
Interactive Coping Tools (avoidance/emotional/problem solving)	Awareness, education, and training opportunities for GBV, TFGVB, cybercrimes, effective communication, respectful relationships	Journalling Mood tracking Meditation/Mindfulness Safe space to confide with trusted persons Conflict resolution training	Existing secondary strategies Connecting to resources Suicide crisis line Mental health crisis line
Counseling or Therapies	Free or affordable counseling or info sessions about healthy relationships	Free or affordable counseling or therapy services via community organizations to develop conflict resolution skills Virtual counselling	Existing secondary strategies Victim Services Support
Basic Needs (housing; income; food; childcare; finances; transportation)	Navigate resources and subsidies available to women depending on their immigrant status	Multicultural outreach services Women's outreach services Community-based victim services	Second or third-stage housing; ACCB; CTB; rent subsidies; income assistance
Immigration and integration	Language support Newcomer or integration resources	Settlement Services Free or affordable legal services	Provide ongoing support to navigate the complications of losing or changing immigration status
Awareness	Violence is Preventable Program Awareness of signs and consequences of violence	Surviving different types of abuse	Knowing reporting options: Third-party reporting (TPR) NOT available to DV; Building evidence

Cross-sector Collaboration	Grassroots community engagement; top-down legislative and policy reforms	Streamlined, culturally appropriate responses to IPV: ICAT (Interagency Case Assessment Team)	Improved knowledge and legal access to family or criminal court
Building resilience	Education credential verification Employment training and opportunities	Provide trauma-informed and culturally sensitive support in navigating medical, justice, and legal systems	Women-led support; Offering empowering and strength-based tools

Recommendations

Researchers have recommended changes and improvements to address GBV amidst global health emergencies or natural disasters. It is imperative that GBV prevention takes a comprehensive and cross-sector approach that combines early intervention, responsive crime prevention, and the provision of ongoing support and therapies (Kirk et al., 2017). In similar situations of natural disasters or pandemics, while creating an emergency plan, the accessible and safe ways to support IPV victims need to be effectively addressed (Nelson et al., 2022). For example, alternatives to IPV hotlines should be considered for easy accessibility of services. Table 1.1 illustrates IPV prevention and intervention strategies at primary, secondary, and tertiary levels via digital means. Early intervention that addresses adverse childhood experiences is essential to crime prevention. On a systemic level, efforts to minimize linguistic and digital gaps, sustainable funding, and well-implemented curricula and policies that address sexism, racism, colonialism, and discrimination will contribute to meaningful engagement with marginalized communities (Crooks et al. 2019; Ghidel et al., 2022; Philbrick et al., 2022). Moreover, provincial and federal GBV prevention guidelines would benefit from considering the diverse experience of women at the onset by outlining best practices that are culturally sensitive and trauma- and violence-informed. Rai et al. (2020) stress that culturally responsive interventions and policy-level changes must be implemented for immigrant communities. Similarly, Ashbourne & Baobaid (2019) recommend implementing culturally integrative service delivery for families in collectivist communities that would bridge local, ethno-diverse newcomer communities and the more individualist aspects of traditional North American mainstream services in addressing family violence. Researchers discussed the conditions required for the prevention to be successful including interdisciplinary training, intersectoral collaboration, and a community-based participatory approach that stresses early identification, risk assessment, safety planning and making appropriate referrals based on cultural and linguistic needs (Kaur., 2020; Rai et al, 2020; Sasseville et al., 2022).

Technology fosters connectivity and reduces stigma. Nonetheless, it is critical to address security, privacy, accessibility, and sustainability concerns when involving technology to serve vulnerable populations. Researchers provide recommendations for future digital intervention development. Glass et al. (2010) expected that reliance on computerized aid would be more beneficial for women who are in earlier stages of violence during their safety decision-making process; as such, it is important to develop tools for ongoing support via the digital platform. App

developers should consider the functionality and usability by incorporating easy-to-navigate user interfaces, adaptive functionalities, tailored vocabulary, lock features to enhance privacy, customer service, frequent and accurate updates, and offer training to those with low-tech skills through outreach programs (Alqahtani & Orji, 2020; Figueroa and Aguilera, 2020). Emezue (2020) concludes with five recommendations: 1. Prioritize survivor voices, rights, and perspectives (Fisher, 2010). 2. Use “gender mainstreaming,” intersectional feminist, and socio-ecological lenses as guiding principles to strengthen preparedness to respond to relationship violence. 3. Enhance understanding of the residual impact of the COVID-19 pandemic on family functioning in the context of relationship violence, considering resiliency, resistance, coping, safety, protection, and prevention. 4. Form cross-sector, cross-discipline collaborations with other professionals in app development. 5. Increase training opportunities for healthcare providers to better identify and use DV digital tools that cover safety assessment, basic needs (benefits, housing, shelter, childcare, etc.), and psychoeducational options (Peterman et al., 2020). Considering cross-sector collaborations, Huang et al. (2022) also suggested integrating digital health apps into GBV-informed services. Most importantly, Emezue et al. (2022) highlight that relying on IPV-mitigating digital intervention is complementary but not a replacement mechanism for traditional modalities. A coordinated and collaborative response strategy is recommended to provide immediate and streamlined services for survivors (Emezue et al. 2022).

Appendix A.

Executive summary: Recommendations of technological-based intervention for immigrant women and youth experiencing violence and abuse

Overview

The literature review identifies the correlation between the COVID-19 pandemic and the worsening of IPV situations. The review points out the prevalence and severity of relationship violence during COVID-19 and the factors associated with GBV against immigrant women. Immigrant women and youth experience multiple and systemic challenges such as language barriers, stigma, precarious immigration status, fear of the system, and racial discrimination, and as a result, are hesitant to seek support. As such, it is important to address equity-related concerns when designing IPV prevention strategies among vulnerable communities from a multicultural perspective. As Sabri et al. (2021) point out, “immigrant survivors of IPV remain an understudied and underserved population in need of rigorously evaluated, evidence-based and culturally informed technology-based interventions that address their health and safety needs” (p. 3). The delivery of safe and equitable IPV-related interventions also requires ongoing and collaborative efforts from the government, organizations, and service providers to create consistent policies, manuals, and guidelines that are in line with local resources (Ghidei et al., 2022).

In this executive summary, the research identifies key texts that provide insights into technology-based app recommendations targeting immigrant communities. The goal is to assist in envisioning an interactive mentoring app that is not only trauma-informed and culturally appropriate but also adaptable to various coping styles and capacity-building interventions that include but are not limited to knowledge, skill, self-efficacy, changes in practice, and improved perceived support or supportive environments at both individual and organizational levels (DeCorby-Watson et al., 2018). The executive summary briefly outlines the benefits and limitations of digital intervention for relationship violence as well as recommended features and considerations for the application. Current GBV prevention applications are listed to identify service overlaps and omissions. The research proposes five objectives in digital relationship violence intervention design for immigrant communities: Awareness and Safety, Knowledge and Information, Social Integration and Community Building, Strengthening Support, and User Engagement and Retention. Appendix B illustrates recommended app features, functions, expected results, and corresponding desired outcomes.

Benefits of digital intervention

Digital interventions are effective tools when it comes to immediacy, 24/7 support, and virtual viability. They also offer great potential to reduce stigma and enhance self-awareness, self-control, and community connections as survivors prefer the practicality and confidentiality of digitally-delivered services (Emezue, 2020). Sabri et al. (2021) outline several benefits of technology-based intervention for immigrant women experiencing violence (pp. 2-3):

1. Offering a feasible and acceptable alternative to improve remote access to safety planning for immigrant women who experience IPV
2. Addressing barriers women face by providing remote support through technology
3. Building women’s knowledge and awareness of available resources, remotely working with women to develop safety plans
4. Enhancing access to care through greater privacy and thus reducing exposure to stigma

5. Smartphones and other personal devices with online access are important to social connectivity and funds transfer among immigrant populations.

Desired features and major concerns involving digital platforms

Researchers have identified key desired functions of technology-based tools for violence prevention (Brignone & Edleone, 2019; Micklitz et al., 2023). Those features include:

- 1) *Functionality*: focused; interactive and multimodal functions; targeting users at different stages of their experience; realistic expectations and outcomes
- 2) *Flexibility*: personalized; customized interface and features; tailored languages and individualized safety planning
- 3) *Accessibility*: i) anonymity and low cost; ii) plain and inclusive language; iii) metaphors and analogies are encouraged, iv) targeting non-traditional users (male or gender-diverse users)
- 4) *Design*: neutral colour; simple layout; calming design; soothing background music; inclusion of diverse subjects of different age, ability, race, ethnicity, gender, and sexuality;
- 5) *Reading level*: i) verbiage, amount of text on one page, spacing, and tone appropriate for users; ii) intuitive crisis-response features, iii) large and easy to access within the first layer of intervention; iv) any information components come with quizzes or case-study modules; v) navigation (such as back buttons, or hidden/side panels)
- 6) *Flow*: Gentle start and a logical structure so that users can anticipate what comes next
- 7) *Discoverability*: recommendations from service providers are equally important as discoverability from common search engines
- 8) *User Responsiveness*: i) High content customization based on user input (e.g. location, level of services needed, etc.) for all key intervention components; ii) Users are aware and able to reach out to personalized supportive networks or express concerns in-app or both; iii) App allows users to come with the problem and it does not make blanket assumptions about client needs; iv) App has a variety of possible intervention pathways (resources, interactive features, etc.)

Researchers also address concerns and limitations pertaining to the use of digital intervention applications (Emezue, 2020; Hall et al., 2024; Sabri et al., 2023):

- A) *Technical issues*: low internet connectivity; high data burden, storage, and ownership; accessibility concerns due to gender digital divides, technical illiteracy, and device disparities especially for lower-income, elder, and rural communities
- B) *Safety*: abusers control access to technology; abuser surveillance or device monitoring; abuser impersonation of victims' online accounts; confidentiality of account and usage; safe and remote data collection

- C) *Ethics*: could cause harm with poor design or poor customer service; digital interventions struggle to bridge the gap between a research product to implementation in [antiviolence] services or broader society (Hall et al., 2024)
- D) *User Engagement and Retention*: low levels of engagement; sustained engagement is a significant challenge; unable to keep up with fast-paced information and technology shifts due to lack of sustainable funding
- E) *Equity*: language and communication barriers; cultural inappropriateness of content; apps not meeting cultural needs of immigrants or minority groups
- F) *Efficacy*: short-term mental improvement but no significant differences in the long-term; inadequate robustness of effectiveness and cost-effectiveness findings

Current technology-based IPV prevention apps available

This section includes a list of technology-based IPV prevention apps that are currently available in Canada, the U.S., Australia, and New Zealand. While some research recommends integrating mental health services in the GBV sector, the list below does not include digital mental health intervention (DMHI) apps.

App Name	Regions	Languages available	Framework and Main Features
<i>myPlan</i>	US, Canada, Australia, New Zealand, and Kenya	English and Spanish	Adopts the empowerment model: <ul style="list-style-type: none"> i. Protection: Danger Assessment ii. Decision-making: identifying priorities and reducing decisional conflicts iii. Healing from social and emotional negative impacts of IPV
<i>WithWomen</i>	Canada	English, French , Spanish	<ul style="list-style-type: none"> • Screening app to screen for relationship safety concerns: https://withwomen.ca • Pathways to plan for safety when in an unsafe relationship: https://withwomenpathways.ca • Promise to plan for safety when in an unsafe relationship during public health emergencies: https://withwomenpromise.com
<i>Isawrisk</i>	Canada	English, Punjabi, Hindi, Chinese Simplified, Japanese, Korean, Russian,	Risk Assessment Tool (RAT) Resource list based on women's physical locations

		Spanish, Persian, Filipino	
<i>iHEAL</i>	Canada	English and French	Based on the qualitative grounded theory: <i>Strengthening Capacity to Limit Intrusion (SCLI)</i> Six approaches: <i>Managing basics, Managing symptoms, Safeguarding, Cautious connecting, Renewing self, Regenerating family</i>
<i>I-DECIDE</i>	Australia	English	<ul style="list-style-type: none"> • Guide users through a process of self-reflection and self-management based on the Psychosocial Readiness Model • Three modules: healthy relationships, safety, and goals (safety, well-being, fitness, access to and availability of appropriate resources, and feelings for the partner and child well-being—if applicable) • Self-reflection exercises, priority-setting and problem-solving tools, safety assessments, and an individualized action plan tailored to each woman's circumstances and choices
<i>iSafe</i>	New Zealand	Maori; English	<ul style="list-style-type: none"> • A tailored safety action plan based on different priorities • Customised local resources • A safe, private space to help assess safety and danger risk • A tool that one can access and return to at any time • An assurance that personal information will be kept confidential

Key texts

Based on the key texts selected, a wide array of recommendations for digital intervention implementation is identified based on the experiences of IPV survivors and/or antiviolence workers.

Article	Research Group	Recommendations
Brignone, L., & Edleson, J. L. (2019). The dating and domestic violence app rubric: Synthesizing clinical best practices and digital health app	38 DV intervention apps for iPhone	1. The importance of any intervention's adaptability to the needs of individual users or clients

standards for relationship violence prevention smartphone apps.		<ol style="list-style-type: none"> 2. The importance of user agency in choosing and implementing the digital intervention best suited to their needs. 3. The importance of a focused, clearly delineated scope of intervention 4. Should include criteria addressing safety and the unique physical and digital dangers posed by the app-based interventions themselves to users who are victims of dating and DV
Emezue, C. (2020). Digital or digitally delivered responses to domestic and intimate partner violence during COVID-19. <i>JMIR Public Health and Surveillance</i> , 6(3), e19831.	IPV survivors during COVID-19	<ol style="list-style-type: none"> 1. Prioritize survivor voices, rights, and perspectives 2. Use “gender mainstreaming,” intersectional feminist, and socio-ecological lenses as guiding principles to strengthen preparedness to respond to relationship violence. 3. Enhance understanding of the residual impact of the COVID-19 pandemic on family functioning in the context of relationship violence, considering resiliency, resistance, coping, safety, protection, and prevention. 4. Form cross-sector, cross-discipline collaborations with other professionals in app development. 5. Increase training opportunities for healthcare providers to better identify and use DV digital tools that cover safety assessment, basic needs (benefits, housing, shelter, childcare, etc.), and psychoeducational options
El Morr, C., & Layal, M. (2020). Effectiveness of ICT-based intimate partner violence interventions: A systematic review. <i>BMC Public Health</i> , 20(1), 1372-1372	Review of effectiveness of ICT-based intervention	<ol style="list-style-type: none"> 1. Addressing both IPV prevention and post-IPV treatment 2. Integrating mental health and social services into the ICT-based IPV interventions
Freed, D., Palmer, J., Minchala, D., Levy, K., Ristenpart, T., & Dell, N. (2018, April). “A Stalker's Paradise” How Intimate Partner Abusers Exploit Technology. In <i>Proceedings of the 2018 CHI conference on human factors in computing systems</i> (pp. 1-13).	Conducted 11 focus groups with a total of 39 survivors of IPV + semi-structured interviews with 50 professionals who provide services to survivors of IPV	<ol style="list-style-type: none"> 1. Interface-level security measures that can distinguish the abuser from the victim based on behavioral, keystroke, or contextual cues. 2. Covert authentication and verification protocols (eg. emergency exit buttons, app lockdown, or data dump after failed password entry) integrated into 3. Passcodes for mobile apps 4. One-click access to DV hotlines 5. Use of evidence-based and tailored content for unique users

Ghidei, W., Montesanti, S., Wells, L., & Silverstone, P. H. (2022). Perspectives on delivering safe and equitable trauma-focused intimate partner violence interventions via virtual means: A qualitative study during COVID-19 pandemic. <i>BMC Public Health</i> , 22(1), 1-1852.	Interviewed 24 anti-violence service providers in Alberta, Canada	<ol style="list-style-type: none"> 1. Form alliances within and across different sectors to better serve vulnerable population groups 2. Tackle the digital divide by funding broadband infrastructure and increase digital literacy for a wide range of diverse individuals affected by IPV 3. Modify safety planning strategies for individuals affected by IPV during the pandemic within a Canadian context and identified 19 IPV safety planning strategies that were considered safe to use during the pandemic by IPV survivors and service providers 4. Ensure physical, emotional, cultural safety and meaningful intervention for individuals affected by IPV in virtually delivered interventions 5. Adopt Trauma- and Violence- Informed (TVI) approaches that centre on understanding the context in which peoples' challenges are experienced and recognize how this intersects with IPV, structural violence, inequity and trauma, including trauma attributed to the devastating effects of colonialism and racism
Sasseville, N., Maurice, P., Montminy, L., Hassan, G., & St-Pierre, É. (2022). <i>Cumulative contexts of vulnerability to intimate partner violence among women with disabilities, elderly women, and immigrant women: Prevalence, risk factors, explanatory theories, and prevention</i> . SAGE Publications.	women with disabilities, elderly women, and immigrant women (DEI)	<ol style="list-style-type: none"> 1. Building awareness of issues likely to generate or exacerbate violence in a couple and of specific manifestations of the various forms of violence 2. Implementing initiatives that enable the social integration of DEI women, including social programs (e.g., housing, daycare, transportation) and employment 3. Education on laws and available programs 4. Reinforcing social support networks to reduce stress associated with particular life contexts (e.g., providing respite for elderly spouses) 5. Strengthening of community ties

What does culturally responsive service look like?

Racialized communities are disproportionately affected by global health emergencies due to language barriers, stigma (shame, guilt, denial of services), and fear of culturally insensitive or inferior mainstream services and interactions and as a result, prefer informal support (Ozturk et al., 2019). To mitigate the impact on immigrant women and youth experiencing relationship violence, it is imperative to enhance culturally responsive measures across sectors. This means taking into account equity- and safety-related considerations in policy or program design. According to Ghidei et al. (2022), "Equity in the virtual delivery of IPV interventions refers to fairness and justice in the

availability and distribution of these interventions to a wide range of population groups and addresses practices that systematically marginalize and stigmatize entire population groups (p. 4). As such, important factors to consider when implementing culturally responsive services include 1) Undertaking intersectionality as a human rights work approach that identifies the multiple locations of disadvantages experienced by immigrant women and youth and providing care and support accordingly without privileging one or another (Khanlou et al., 2020), 2) Implementing anti-racist and culturally-sensitive training and policy that combats stereotyping and bias, enables self-education, and establishes operational guidelines and manuals of DEI. 3) Meaningfully engaging the BIPOC communities to understand their concerns and needs to determine actionable procedures, and 4) Sustainable funding that addresses the digital divide and ensures service continuity in IPV prevention services (Ghidei et al., 2022). These guidelines provide foundations for focus group question design and measurable tools for project assessment.

Rai et al. (2023) argue that a person's culture not only influences how survivors experience violence and perceive risk factors but also affects their behaviors in seeking support. By conducting focus group sessions across six cultural communities across BC, this research seeks to identify immigrant survivors' concerns, coping strategies and needs when experiencing violence or abuse. Considering the multiple barriers faced by migrant and refugee patients in addressing their mental health concerns, Benjamin et al. (2021) point out that virtual care may offer opportunities to reduce transportation costs, provide timely access, and connect patients to other virtual resources and as a result, may yield equitable outcomes. Researchers further emphasize the importance of providing equitable technology-facilitated care and services. Reflecting on existing literature, this study seeks to collect new data that would contribute to creating culturally integrative violence prevention services for immigrant women and youth.

Technology-specific solutions

Innovations in technology have presented both opportunities and challenges for violence prevention and intervention. To address the concerns and limitations of technology-facilitated anti-violence strategies, we draw insights from existing literature and our technology consultant to provide suggestions (Emezue, 2020; Freed et al., 2018; OPO, 2017; Singh 2018):

- a) **Privacy Enhancement Technologies (PETs):** limit data collected and stored (data minimization); disguise app name and appearance; enhance authentication mechanisms to distinguish between survivors and perpetrators impersonating device owners based on behavioral, keystroke, or context cues; add covert authentication mechanism such as 2 passcode authentication (use one to retrieve generic information and a different password to access sensitive or personal data); app lockdown after multiple failing attempts; install stalker detection software and end-to-end encryption for secure communication
- b) **Prioritizing technology-based immigrant-related solutions:** language translation capability; AI-powered virtual chatbot; anonymized multicultural community-based online platforms; habit-forming features (behavioral nudges) such as daily check-ins or push notifications to encourage self-care and risk assessment
- c) **Primary violence prevention digital strategies (Gamification and Micro-learning):** To sustain user retention and engagement, a few strategies are identified including gamification and micro-learning. Gamification is a digital strategy that incorporates game design elements in non-gaming environments (Pascoe et al., 2024). It is argued to

be an effective and engaging tool for crime prevention by combating gender stereotypes and social norms. It may be particularly suitable for the youth demographic as it incorporates point systems or badges to increase participation. However, researchers highlight the importance of “balancing engagement and motivation with the seriousness of the subject matter is crucial to ensure that gamification effectively educates and empowers learners in sensitive contexts” (Gini et al., 2025). On the other hand, micro-learning resembles distance training that delivers small portions of content that the learners can absorb in short periods of time while micro-content is interspersed with other activities (Díaz Redondo et al., 2020). The researchers add, “For this approach to be successful, it is essential to pay attention to the design of micro-content as well as how it is sequenced [...] to the design of micro-learning activities (Díaz Redondo et al., 2020).

Freed et al. (2018) point out that most attacks are not technological sophisticated and those include guessing the password, sending harassing messages, setting up a fake social media profile, etc. It is important to not overlook simple adversarial tactics while implementing complex technology-specific solutions. It takes both awareness-raising and technology-specific solutions to prevent cyber-based abuse and violence.

Analysis and recommendations

While digital violence prevention and intervention may not directly affect institutional changes, inclusive and trauma-informed languages can enhance the security and trust of users, and in turn, foster community awareness and grassroots impact. Eisenhunt et al. (2020) reviewed 32 violence against women apps around the world and categorized them into five main functions: Emergency, Avoidance, Supporting, Education, Reporting, and Evidence Building. Brignone & Edleon (2019) surveyed 38 DV or dating violence apps and provided a rubric based on user responsiveness, user diversity (male or gender-diverse victims), focus, speed, provider-to-provider collaboration, client expertise, evidence grounding, and technical quality. After comparing the literature, the research proposes five overarching objectives that the Enhancing Wellness - M4Y app could consider incorporating: Awareness and Safety, Knowledge and Information, Strengthening Support, Social Integration and Community Building, and User Engagement and Retention. Note that these five categories are not exclusive but overlap to a certain degree to maintain a logical structure and enhance the security and quality of user experience.

- 1) **Awareness and Safety [AS]:** Emergency exit button; digital safety about the app and in general; danger assessment; awareness and knowledge of signs of abuse including spiritual abuse and available community resources for coping; reporting options and evidence building; customized resource list, etc.
- 2) **Knowledge and Information [KI]:** Enhance knowledge in relevant topics: family law, GBV, TFGBV, DEI (Diversity, Equity, and Inclusion), digital literacy, financial literacy, employment and training opportunities, health or natural emergency resources
- 3) **Strengthening Support [SS]:** Reinforcing services available that specialize in basic needs (housing, finances, food security, school, work, childcare, transportation, employment), services available for improving mental and/or physical well-being, and services available in navigating justice, medical, and legal systems, connecting with outreach workers or virtual nurse

- 4) ***Social Integration and Community Building [SICB]***: Targeting immigration and settlement services, translation services, local multicultural and religious sites and community centers; advocacy for social support to be culturally safe
- 5) ***User Engagement and Retention [UER]***: Privacy and confidentiality information page; onboarding questions and assessment to identify the needs; tailored vocabulary and setting; search button; content and resources renewal; anonymous community forum; live chat; user feedback system

Appendix B.

Below are recommended strategies for digital GBV intervention development based on five overarching goals (Awareness and Safety [AS]; Social Integration and Community Building [SICB]; Strengthening Support [SS]; Knowledge and Information [KI]; User Engagement and Retention [UER]):

App Type	App features	App functions	Expected Outcomes	Category
Emergency Exit	One-click access	To exit the app safely and quickly	Safety	AS
Passcode	Default passcode for safe exit	To exit the app safely when asked by the abuser to enter the app	Safety	AS
Initial Screening and Onboarding	Questions to quickly identify the needs of the user	To tailor suited knowledge and resources based on the user's identity (men, women, youth), location, and needs	Tailored service; User engagement	UER
Safety Assessment	Provide safety assessments and tools to determine risk factors	Tally risk factors and provide a safety planning checklist; provide 24/7 resources	Safety	AS; SS
Confidentiality Statement	A page that outlines privacy settings and confidentiality of the app	To inform users about data collection, usage, and storage	Privacy; Security	UER
User Setting	Customary settings for different types of users; online or offline mode; language options	To give users options to choose as self, friend or family, service provider, or prefer not to disclose; provide language options	Tailored service; Safety; Confidentiality; Equity	UER; SICB
Basic Needs	Provide information and resources for housing, food, childcare, employment, transportation, subsidies/benefits	To address immediate basic need concerns to achieve long-term safety and stability	Safety; Food and financial security	SS
Physical Health	Provide information about physicians, emergency rooms, virtual care, maternal or pregnancy-related questions	To address immediate health concerns	Health; Physical wellbeing	KI; SS
Mental Wellness	Provide emotional coping strategies and counseling options	To offer free counseling services information and emotional regulation tips such as mood tracking,	Emotional security; Strength building	KI; SS

Knowledge Check	Provide information about types of abuse, signs of abuse, causes of abuse, should I report?, evidence collecting and building	meditation exercises, mindfulness, etc. To assess one's situation and take action if one decides to leave the abusive relationship	Safety; Awareness; Strength building	AS; KI
Immigration and Settlement	Provides resources for immigration-related consultation and advocacy	To be informed about immigration-related resources and complications	Equity	SICB; SS
Legal and Justice Support	Provide legal aid information and know the differences between a peace bond and a protection order	To be informed about lawyers or legal advocates specialized in immigrant law and family law	Informed knowledge; Advocacy	KI; SS
Community	Create a safe and confidential space for peer support	To empower users and center their perspectives	Strength building	SICB
Knowledge Building	Provide definitions to IPV-related terms such as GBV, TFGBV, DEI	To support users in grasping complex concepts	Strength & capacity building	KI
Search	Search column for keywords or topics that are relevant to their inquiries	To support users in quickly navigating the app to address their immediate concerns	User's experience	UER

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