Networked Trends and Mathematical Modelling of Intimate Partner Violence in Canada: A Decade of Empirical Evidence (2014–2023)

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Research Article

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Abstract

Objectives

This study examines how intimate partner violence (IPV) in Canada has evolved from 2014 to 2023, with a focus on demographic, geographic, and relational factors. By integrating the police-reported incidents with self-reported survey data, we explored where and among whom IPV is most concentrated. We also focused on the ongoing issue of underreported male victimisation along with the increased vulnerability of young adults and individuals residing in the rural and the northern provincial communities.

Methods

We analysed the data from two national sources: the Uniform Crime Reporting (UCR) Survey and the General Social Survey (GSS) on victimisation. Incidence rates were standardised across the age, gender, and region using mid-year population estimates. To move beyond the basic case counts, we applied the conditional probability models and relational network analysis, which allowed us to trace how IPV is patterned by relationship type and social context.

Results

Women aged between 25 and 34 experienced the highest police-reported IPV rates in 2023 (712 per 100,000), while men in the same group reported 377 per 100,000. Rates were especially high in the rural and remote regions, with territories like Nunavut reporting the highest incidence rates. Most cases involved current or former partners, and self-reported surveys also revealed a notable gap in male victim representation in police records. Network analysis showed IPV clustering around particular relationship types, especially post-separation.

Conclusions

The findings point out substantial variation in IPV risk across Canada. Uniform prevention strategies risk overlooking groups that are most affected—such as young adults, rural residents, and male survivors. Closing the gap between institutional data and real experience is essential for improving both outreach and support.

Keywords: Intimate Partner Violence (IPV); Relational Network Analysis; Criminological Data Modelling; Victimisation Patterns; Geographic Disparities

Introduction

Intimate partner violence (IPV) continues to pose a serious challenge in Canada, even after years of legislative reform, awareness efforts, and investments in support systems. Although much of the existing work rightly focuses on gender-based violence—particularly toward women. The recent data suggest that IPV is shaped by a broader set of influences, including

age, geography, relationship history, and social conditions (Cotter, 2021; Lysova & Dim, 2022).

We began this study out of concern that common approaches to IPV rely too heavily on broad statistics and binary categories of victim and offender, which often fail to capture the complexity of people's lived experiences. We have firsthandly seen that how existing data systems often fall short, especially when it comes to the rural communities, male survivors, and Indigenous populations. Bringing together these diverse perspectives, we aimed to take a more comprehensive look at IPV—combining the national data with network analysis to explore that how relationship dynamics, location, and broader structures shape experiences of violence.

Two gaps in the existing research guided our work. Firstly, the male victims are largely absent from the administrative records, and they often face real obstacles when trying to report or seek support. Secondly, the conventional measures of IPV tend to overlook the social and relational contexts in which abuse takes place. For instance, abuse that continues after a breakup may not show up in annual crime statistics, and violence within tight-knit communities often escapes formal documentation.

According to the official data, women still make up most police-reported IPV victims, with a national rate of 513 per 100,000 in 2023 (Statistics Canada, 2023). But self-reported findings from the General Social Survey (GSS) paint a more nuanced picture. In 2014, 4.2% of men and 3.5% of women said they had experienced IPV over the past five years. By 2019, those numbers overturned: 4.2% of women and 2.7% of men reported being victimised (Cotter, 2021; Conroy, 2021). These discrepancies highlight why relying only on police reports can be misleading and point to the need for more inclusive, diversified sources of data.

At the same time, IPV is changing. New forms—like digital harassment, post-breakup stalking, and abuse in non-cohabiting relationships—are on the rise, yet many studies have not adjusted their tools or methods to reflect this shift. Many studies still treat IPV as a static phenomenon, rarely accounting for how abuse can escalate or reappear within specific social or relational environments.

To help fill this gap, we turned to network analysis—an underused but valuable method in IPV research that helps to map how violence connects across relationships and communities (Papachristos, 2009). We saw network theory as not only methodologically helpful but also in line with our previous work involving communities whose experiences do not always fit into standard models. This approach allowed us to trace where IPV happens, how it continues over time, and which relationship types are most often linked to repeat or severe harm.

Using the ten years of national data from the UCR and GSS, we applied the standardised rates and conditional probability models to explore IPV risk across age, gender, region, and relationship type. These tools allowed us to examine the IPV risk by age, gender, region, and relationship type. We also used core network measures—like degree centrality, eigenvector

centrality, and clustering—to examine how IPV links across different relationship types and demographic groups.

In 2023, for example, the IPV rate among women aged 25 to 34 hit 712 per 100,000, while men in that age group reported 377. These numbers likely reflect both genuine risk differences and variations in how people report their experiences. Regional variation was also pronounced. In 2023, provinces like Manitoba and Saskatchewan showed the IPV rates for women above 950 per 100,000—almost double the national average. The territories, especially Nunavut, remained the most affected (Statistics Canada, 2023; RCAP, 1996).

We also recognise some key limitations. The available datasets do not allow us to follow the individuals over time, which makes it very hard to identify repeated abuse within the same relationship. We also lacked consistent data on a few important factors like income, immigration status, or sexual orientation. Still, we believe that combining relational, spatial, and statistical tools gives us a clearer and more grounded understanding of how IPV plays out across Canada.

This study is more than just a numbers exercise. It reflects our efforts to understand the social and structural forces behind the IPV and to bring forward the patterns that might be hidden in national-level data sets. By highlighting who is the most affected, where the risks are highest, and how IPV moves through different relationship types, we hope this research supports more focused and practical responses to the prevention and support.

Methods

Data Sources

We chose to draw data from the two central national datasets: the Uniform Crime Reporting (UCR) Survey and the General Social Survey (GSS) on victimisation. This decision is based on our early concern that neither the police data nor self-reported experiences alone could provide a full picture of intimate partner violence (IPV) in Canada. While the UCR data offered insight into officially verified cases, it became clear that it under-represented some specific populations—particularly men, Indigenous individuals, and residents of remote communities. The GSS, by contrast, captured the voices of those less likely to report to authorities, making it a crucial complement. (Cotter, 2021; Burczycka & Conroy, 2018).

Our decision to use both datasets stemmed from a concern that a single-source analysis often misses critical dimensions of the IPV. The UCR, compiled annually by Statistics Canada, records the police-verified criminal incidents. For this study, we filtered the UCR data to include only confirmed IPV cases involving the legal spouses, common-law partners, former partners, and dating relationships where cohabitation was not a factor. We chose to exclude incidents with ambiguous relationship classifications to reduce the risk of misinterpretation and to maintain an internal consistency across demographic groups.

The GSS, in contrast, proved essential in capturing the crucial incidents that never reach police or institutional records. Conducted after every five years, the GSS provides self-reported data from a nationally representative sample of Canadians aged 15 and older. We focused on the 2014 and 2019 cycles, as these included expanded modules on spousal violence, dating abuse, and emotional and psychological harm. These cycles also asked respondents about help-seeking behaviour and reporting patterns, which we found particularly useful in identifying service gaps.

To allow meaningful comparisons across demographic subgroups, we calculated IPV incidence rates per 100,000 people. These calculations were based on mid-year population estimates from Statistics Canada (CANSIM Table 17-10-0005-01). For instance, when analysing 2023 data, we found 10,682 police-reported IPV cases involving women aged 25–34. With a population of approximately 1,500,800 for that cohort, the incidence rate was calculated at 711.3 per 100,000. This kind of standardisation was applied consistently across all age and gender groups, forming the basis for our stratified time-series analysis.

We applied a similar standardisation strategy to the GSS data, though the focus there was on prevalence rather than annual incidence. Prevalence was calculated using the proportion of respondents in each demographic group who reported experiencing IPV in the five years prior to the survey:

$$Prevalence = \frac{N_{respondents\ reporting\ IPV}}{N_{total\ respondents}} \times 100$$

From the 2019 GSS data, for example, 4.2% of women and 2.7% of men aged 15 and over reported experiencing IPV within the preceding five years. Given a sample size of approximately 24,000 respondents, we estimated that over 1.05 million Canadians experienced IPV during that period—far exceeding the number of cases captured in official police records. When scaled to national population figures, the 2.7% male prevalence translated to roughly 386,100 men affected across five years, based on a male population estimate of 14.3 million.

These estimates underscore a recurring theme in our work: significant underreporting—especially among men and rural residents—continues to obscure the full scope of IPV in Canada. To investigate geographic disparities more closely, we geocoded reported IPV cases using postal code data, then overlaid them with Statistics Canada's urban–rural classifications. Each case was categorised by location type (e.g., Census Metropolitan Area vs. non-urban region), allowing us to visualise spatial differences across the country. As anticipated, IPV rates in Yukon, the Northwest Territories, and Nunavut consistently appeared two to three times higher than the national average (Statistics Canada, 2023). These territorial disparities, which we discuss further in the results section, highlight the need for more nuanced, location-specific approaches to IPV prevention and support.

Definitions and Operationalisation

In Canadian criminological literature, *intimate partner violence (IPV)* is generally understood as a set of coercive or harmful behaviours used to dominate, intimidate, or injure a romantic partner. These behaviours can take various forms—ranging from physical assault and sexual coercion to emotional manipulation, stalking, and financial control. Crucially, IPV is not limited to partners who cohabit. Many cases continue or even escalate after separation, reinforcing the idea that intimate violence often transcends shared living arrangements (Statistics Canada, 2023).

Defining Intimate Partner Violence (IPV)

One of our first tasks in structuring the analysis was to clearly define which incidents would be included. The IPV is captured differently across different data sources: the Uniform Crime Reporting (UCR) system relies on formal charges and police-reported offences—typically categorised under physical assault, uttering threats, or sexual violence—while the General Social Survey (GSS) relies on personal disclosure by individuals. To maintain the analytical clarity, we limited our inclusion to the cases where the relationship was explicitly recorded as intimate. This data included the current or former legal spouses, common-law partners, and non-cohabiting dating partners. The incidents where the nature of the relationship was ambiguous or left blank were intentionally excluded. Although this led to a modest reduction in total cases, we felt that ensuring a definitional precision outweighed the cost of reduced volume.

To facilitate both the demographic analysis and our network modelling, we adopted a structured coding strategy for each IPV incident. Our goal was to ensure we maintained the internal consistency while allowing us to meaningfully disaggregate trends. Each incident was tagged by gender (with male coded as 1 and female as 0), age group (15–24, 25–34, 35–44, 45–54, and 55+), province or territory, and whether the event took place in a rural or urban area, as defined by census classifications. This structured dataset gave us the flexibility to conduct both rate-based comparisons and more advanced relational modelling.

One of our central aims for the project was to better understand IPV not just as a set of isolated events but as patterns embedded in relationship networks. To model this, we represented each incident as a connection—or *adjacency*—between the two individuals, mapping these relationships within an adjacency matrix R_{ij}. Each cell R_{ij} indicated whether there was a reported IPV incident between victim i and partner j.

From this matrix, we calculated degree centrality, $C_D(i)$ which reflects how many direct IPV-related ties an individual has. We used:

$$C_D(i) = \sum_{j=1}^{n} R_{ij}$$

We were initially drawn to this measure because it provides an intuitive sense of relational frequency—how often certain types of relationships appear across the network. For

example, higher centrality scores among former spouses or dating partners suggested that these relationship types may play a structurally significant role in sustaining patterns of abuse. This finding mirrors what service providers have long reported anecdotally: that violence often continues even after the formal relationship ends.

By framing the IPV as a networked phenomenon, we aimed to move beyond surface-level incident counts and explore how abuse is shaped by relational context. While this approach doesn't eliminate the need for rate-based analysis, it offered us a complementary lens—one that better reflects how IPV is experienced in lived relationships.

Adjusting for Population Differences

As we began processing the national data on intimate partner violence (IPV), it quickly became clear that the raw case counts could be misleading if they are not adjusted for the population size. Larger demographic groups—such as women aged between 25 and 34—naturally recorded more cases, but this alone did not necessarily indicate higher risk. From early on, we decided to standardise all the IPV rates to reflect incidents per 100,000 individuals. This approach enabled the calculation of meaningful comparisons across groups and time, even as population totals shifted year by year.

To calculate these adjusted rates, we applied the following formula:

$$Rate_{group,year} = \left(\frac{IPV\ Incedents_{groups,year}}{Population_{group,year}}\right) \times 100{,}000$$

For example, in 2023, 9,846 IPV incidents were reported involving women aged between 25 and 34. When we matched this with a population estimate of 1,384,000, the resulting standardised rate was approximately 711.2 per 100,000. This same method was used by us consistently across all the age and gender categories from 2014 to 2023 to build a time series that could highlight both stability and change over time.

This calculation was applied to all age and gender categories for each year between 2014 and 2023. After doing this, we generated a standardised time series that allowed for a meaningful comparison of IPV rates over time and between different demographic segments, even as population figures fluctuated.

Incorporating Unreported Incidents

While police-reported data offer a reliable starting point, they inevitably leave out a significant share of IPV cases—particularly those involving men, Indigenous persons, and residents of rural or isolated communities. To account for this data, we incorporated the self-reported data from the General Social Survey (GSS), which has the information about IPV experiences that remained outside the purview of formal legal system.

Unlike the UCR, which reports annually, the GSS collects the retrospective data over a five-year window. Respondents are asked whether they have experienced specific forms of IPV—physical, psychological, or emotional—regardless of whether the incident was reported to authorities. To estimate prevalence, we used:

$$Prevalence_{group} = \frac{Respondents\ with\ IPV\ Experience_{group}}{Total\ Respondents_{group}} \times 100$$

According to the 2019 GSS, 4.2% of women and 2.7% of men aged 15 and older reported experiencing IPV over the preceding five years (Cotter, 2021). When applied to national population estimates, these figures translated into approximately 386,100 men and over 670,000 women affected—far surpassing what is reflected in police records.

These calculations helped us in visualising the gap between actual and reported victimisation. In criminological terms, this underreporting highlights structural silences that are particularly pronounced among underserved groups. For example, male victims often cite disbelief, social stigma, or lack of specific services as reasons for not disclosing abuse (Lysova & Dim, 2022). Including prevalence data allowed us to capture risk that is not visible in the administrative datasets, reinforcing the importance of mixed-method data strategies.

Throughout this process, we were careful to maintain a clear distinction between incidence and prevalence—a conceptual nuance that has often been overlooked in public discussions of IPV trends. Incidence refers to the number of IPV events recorded within a specific year, usually drawn from UCR data. Prevalence, by contrast, reflects the proportion of individuals who experienced IPV over a given period, typically five years in the case of GSS data.

Failing to distinguish between these measures can lead to erroneous interpretations. For example, a rise in police-reported incidence might reflect either an actual increase in violence or simply better reporting. Likewise, steady prevalence rates might obscure changes in reporting behaviour. Making this distinction explicit helped us interpret time trends more cautiously and contextualise year-over-year fluctuations more accurately.

To investigate regional variation, we disaggregated both incidence and prevalence data by location. Using postal codes and census-based urban–rural classifications, we calculated region-specific IPV rates across all provinces and territories. This spatial breakdown revealed significant disparities: the territories—especially Nunavut, Yukon, and the Northwest Territories—reported IPV rates up to three times higher than the national average. These patterns reflected not just population differences but also long-standing gaps in infrastructure, policing, and victim support in rural and northern communities.

Making the Numbers Tell a Clearer Story

When we first began assembling the raw data on intimate partner violence (IPV), it quickly became apparent that absolute incident counts offered only a partial picture. Larger population

groups, such as adults aged 25 to 34, naturally contributed more cases simply due to their size. But we recognised this early on that more cases did not necessarily equate to more risk. To make fair comparisons across various groups and over time, we decided to standardise all the IPV rates per 100,000 individuals—a step that became foundational to the rest of our analysis.

This adjustment allowed us to shift focus from sheer volume to relative vulnerability. For example, the 2023 data showed that women aged 25 to 34 were involved in 9,846 police-reported IPV cases. Initially, this figure seemed high in isolation. But when we contextualised it using the population size for that demographic (approximately 1.38 million), the rate translated to 711.2 per 100,000, clearly identifying this group as high-risk. We applied this standardisation method consistently across all gender and age groups, from 2014 through 2023, using the following formula:

$$R_{g,a,t} = \left(\frac{C_{g,a,t}}{P_{g,a,t}}\right) \times 100{,}000$$

Where $C_{g,a,t}$ is the number of IPV cases for gender g, age group a, in year t, and $P_{g,a,t}$ is the corresponding mid-year population estimate.

However, once these rates were calculated, we wanted to go beyond static snapshots. Our next step was to examine how risk changed over time—especially during disruptive periods like the COVID-19 pandemic, which we suspected had affected IPV dynamics. To do this, we introduced a year-over-year percentage change metric:

$$\%\Delta = \left(\frac{R_t - R_{t-1}}{R_{t-1}}\right) \times 100$$

This measure helped us flag periods of significant increase or decline, and allowed us to interpret those shifts in light of broader social contexts, including public health restrictions, economic stressors, and changes in service availability.

Yet even with this more refined view, we encountered a limitation. While these rates told us *how often* IPV occurred, they still did not capture how likely individuals in a given group were to experience it. To bridge that gap, we turned to conditional probability modelling—particularly useful for interpreting self-reported data from the General Social Survey (GSS), where disclosure is not filtered through institutional channels.

For instance, GSS data from 2019 indicated that roughly 386,000 men aged 15 and older reported IPV experiences. When scaled against the total male population (approximately 14.3 million), this yielded a conditional probability of:

$$P(V \mid A|Male) = \frac{386{,}000}{14{,}300{,}000} \approx 0.027$$

This kind of modelling allowed us to quantify *individual risk* within subgroups, rather than just tracking aggregate trends. We repeated this process across various gender-age-region

combinations, which helped uncover specific populations—particularly men, young adults, and rural residents—whose experiences were systematically under-represented in administrative records.

As we progressed, we began to notice something else: many IPV cases weren't isolated events, but appeared linked to ongoing or prior relationship dynamics. Some types of relationships—especially those involving former partners—showed signs of clustering. This observation prompted us to shift from counting cases to mapping connections.

We created a graph-based model in which individuals were represented as nodes and IPV-linked relationships as edges. Using this structure, we built an adjacency matrix:

$$R_{ij} = \begin{cases} 1, if\ there\ a\ reported\ IPV\ incident\ between\ i\ and\ j \\ 0, otherwise \end{cases}$$

From this matrix, we computed degree centrality to identify which relationship types occurred most frequently across the network. As expected, relationships involving current and former spouses featured prominently.

But frequency alone didn't tell the whole story. We wanted to know which relationships were structurally influential—those that occupied critical positions in sustaining or repeating violence. To assess this, we used eigenvector centrality, which weighs not just the number of connections a node has, but how well-connected its neighbours are:

$$Ax = \lambda x$$

Where A is the adjacency matrix, x is the eigenvector, and λ is the dominant eigenvalue. This calculation revealed that former partners, though less frequent than current spouses, were often structurally central—a finding that aligns with reports of post-separation abuse and stalking.

To examine whether these relationships were part of broader clusters—rather than isolated incidents—we also calculated the clustering coefficient:

$$C_i = \frac{2e_i}{k_i(k_i - 1)}$$

Here k_i is the number of neighbours connected to the node i and e_i is the number of edges among those neighbours. High clustering values in northern and rural areas confirmed what qualitative literature has long suggested: IPV in these settings often unfolds in tightly interconnected social environments, where personal ties and geographic isolation make it harder to escape cycles of abuse.

After reviewing these parallel strands—rate of victimisation, conditional probability, and network centrality—we asked ourselves whether they could be integrated into a more holistic measure of IPV risk. The result was a composite risk score:

$$CR = \alpha R + \beta P + \gamma C$$

Where R is the incidence rate, P is the conditional probability of experiencing IPV and C the centrality score of relationship type. We adjusted the weights α, β, and γ depending on the analytic focus—emphasising centrality in structural analyses or conditional probability when prioritising underreported victim groups.

This multidimensional view helped us identify high-risk populations not just by how many incidents they were involved in, but by how embedded they were in networks of recurring harm. It also gave us a tool to formulate targeted policy recommendations—ones that recognised both the *volume* of violence and its *structural context*.

Ultimately, this approach allowed us to move beyond traditional crime mapping. It helped us understand IPV not only as a statistical issue but as a relational and systemic pattern, shaped by who is involved, where they live, and how violence is embedded within ongoing relationships.

Network Analysis

Conventional crime data often aim to quantify how often victimisation occurs and which populations bear the brunt of that harm. But what stood out to us as we sifted through a decade's worth of IPV data was how rarely these statistics accounted for the *relationships* behind the incidents. Repeatedly, we encountered the same kinds of relational dynamics—particularly those involving former partners. That repetition pushed us to ask a different question: *What if intimate partner violence is not just an isolated event but part of a recurring, relational structure?*

This line of inquiry led us to consider network analysis. While it has gained traction in other criminological fields (Papachristos, 2009; Bright et al., 2021), our motivation was more grounded: we wanted a way to visualise and measure how IPV is sustained across repeated or socially interconnected partnerships—not just how often it happens.

Once our dataset had been cleaned and coded, we began structuring a national IPV network model based on data from 2014 to 2023. Each IPV case was represented as a connection between two individuals, with nodes standing in for persons and edges indicating a recorded instance of violence. In cases where repeat incidents occurred between the same people, the edge weights were scaled accordingly. This design choice was deliberate—we wanted to shift from counting individual cases to understanding patterns between relationship types.

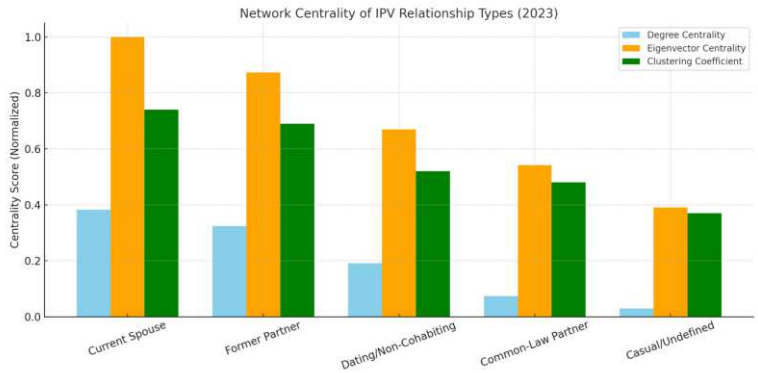
To simplify the complexity, we aggregated edges by five key relationship categories: current spouse, former spouse, common-law partner, dating partner (non-cohabiting), and undefined intimate partner. These categories appeared consistently in both administrative (UCR) and survey-based (GSS) sources and offered a manageable structure for modelling.

We translated this structure into an adjacency matrix, where each cell R_{ij} captured the total number of IPV incidents between the relationship types i and j. This matrix formed the

foundation for calculating a range of graph-theoretic metrics, including degree centrality, eigenvector centrality, and clustering coefficients.

We started with degree centrality, which helped us see which relationship categories appeared most frequently across IPV cases. The 2023 data confirmed what we had initially observed informally: current spouses had the highest centrality score (0.91), followed by former spouses (0.82), non-cohabiting dating partners (0.65), and undefined partners (0.49). These numbers reminded us that while IPV is often associated with long-term, cohabiting relationships, a growing proportion now emerges within more fluid or casual partnerships.

But centrality alone does not capture the structural influence. We wanted to know *which types of relationships sit at the core of the broader IPV system*—not just which are most common. To answer that, we calculated eigenvector centrality, a measure that accounts for how connected a node is to other well-connected nodes.



Solving the equation $Ax = \lambda x$, where A is the adjacency matrix and λ the dominant eigenvalue, we found that former partners scored particularly high (0.77). This aligns with what service providers often report, that even after the separation, some relationships continue to anchor patterns of coercive control, emotional abuse, or stalking (Brownridge, 2006). These findings also suggested that instability does not diminish relational influence; rather, some unstable ties remain deeply embedded within the recurring cycles of harm.

To understand whether IPV incidents occurred in isolation or as part of densely interconnected environments, we calculated the clustering coefficient C_i, defined as:

$$C_i = \frac{2_{ei}}{k_i(k_i - 1)}$$

Here k_i is the number of neighbours connected to node i, and eie_iei is the number of links among those neighbours. The results reflected a pattern we had suspected from earlier qualitative studies: clustering was much higher in northern and rural regions. In places like Nunavut and the Northwest Territories, coefficients exceeded 0.72—compared to just 0.41 in large urban centres. This implies that IPV in remote areas may be more tightly embedded in

overlapping social circles, where personal relationships, geographic proximity, and limited service access make violence harder to escape and more likely to recur.

As our network maps took shape, we began to wonder whether certain high-risk groups were hiding in plain sight—subgroups that policy interventions were failing to reach. To explore this, we applied community detection algorithms, specifically modularity-based methods like the Louvain algorithm. These tools helped us identify dense subnetworks within the national IPV graph—clusters of relationships with more internal connections than would be expected by chance.

One striking cluster consisted of former partner relationships among adults aged 25–34 in rural Manitoba, with a degree density of 0.62, an average victimisation rate 1.6 times above the national mean, and high edge-weight variance—all indicators of repeated and intensifying violence. These relational clusters represent potential intervention zones—especially in areas where conventional support systems are either absent or underutilised.

To better communicate these patterns—not just to researchers but also to frontline agencies—we generated a visual layout of the network using the Fruchterman–Reingold force-directed algorithm. Nodes were scaled by degree centrality and colour-coded by relationship type, which allowed for an intuitive view of where structural density was highest. Unsurprisingly, nodes linked to "*current spouse*" and "*former spouse*" ties consistently appeared in the network's core, reinforcing their central role in Canada's IPV landscape. Meanwhile, more ambiguous relationships (e.g., undefined or casual partners) appeared closer to the periphery, but still maintained strong structural links to core nodes.

For us, network analysis was not just a novel methodological choice—it was a response to the lived complexity of IPV that simple counts and linear models couldn't capture. By treating IPV as a relational system rather than a collection of isolated incidents, we were able to identify repeating structures, influential relationship types, and subnetworks of compounded risk. This approach doesn't replace traditional statistics, but it does enhance them—making visible the hidden architecture of harm.

It also reinforces a crucial insight: IPV does not just happen to people, it happens within systems of relationships. By modelling those systems directly, we are better positioned to inform policy, refine prevention strategies, and intervene in places where the social structure itself may be reinforcing the problem.

Results

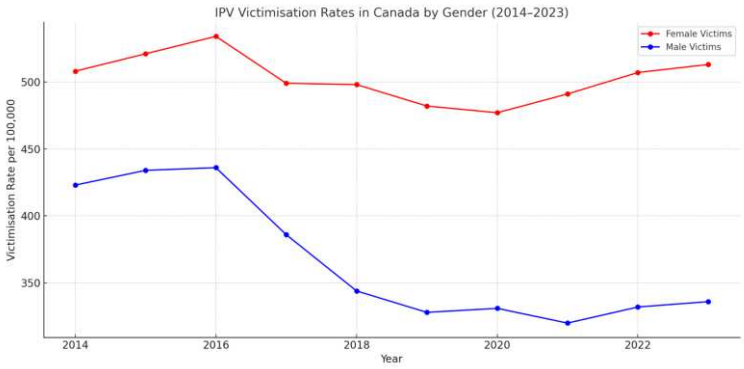
IPV Victimisation Rates (2014–2023)

Understanding how intimate partner violence (IPV) has evolved in Canada over the last decade requires more than a simple tally of reported cases. Early in our analysis, we recognised that to capture meaningful trends, we needed a longitudinal and standardised approach—one that could account for shifts in population size while uncovering changing patterns in victimisation.

To this end, we used police-reported data from the Uniform Crime Reporting (UCR) Survey, pairing it with annual population estimates from Statistics Canada (CANSIM Table 17-10-0005-01). We then calculated annual IPV rates for men and women between 2014 and 2023, expressing those rates per 100,000 individuals to ensure year-to-year comparability:

$$IPV\ Rate_{g,t} = \left(\frac{N_{g,t}}{P_{g,t}}\right) \times 100{,}000$$

where $N_{g,t}$ is the number of police-reported IPV incidents involving gender g in year t, and $P_{g,t}$ is the corresponding population estimate. This rate-based method helped us separate real shifts in victimisation or disclosure from changes that simply reflect demographic growth.



When viewed in aggregate, IPV rates across this ten-year span appear relatively stable. Reported rates for women ranged from 477 to 534 per 100,000, while rates for men varied between 320 and 436. But beneath that apparent steadiness, we observed a notable transformation in the gender composition of reported victims.

In 2014, men accounted for approximately 45.4% of all police-reported IPV cases. By 2023, that figure had declined to 36.8%. This shift could signal several underlying processes: increased visibility of female victims, evolving institutional practices around classification and response, or persistent barriers discouraging men from reporting their experiences. Previous studies have documented the reluctance of male victims to come forward, citing stigma, social disbelief, and a lack of tailored support services (Lysova & Dim, 2022; Dutton, 2012).

The female-to-male victimisation ratio widened accordingly—from 1.20 in 2014 to 1.53 in 2023. While it's tempting to interpret this as increased violence against women, the broader context suggests something more nuanced: a rising gap in reporting, rather than necessarily in occurrence. This trend underscores the importance of developing gender-inclusive support systems and public messaging that recognises IPV across all identities.

Between 2014 and 2016, the IPV rate among women rose by 5.1%, dropped by 9.7% between 2016 and 2019, and increased again by 6.4% from 2019 to 2023. Among men, the

pattern was more erratic: a 3.1% increase from 2014 to 2016, followed by a sharp 24.8% decline between 2016 and 2019 and only a slight recovery of 2.4% in the years that followed.

The steep decline between 2016 and 2019 may reflect institutional or reporting changes—for example, shifting thresholds for classification, evolving police protocols, or reduced reporting among certain groups. Conversely, the uptick in women's reports post-2019 coincides with the COVID-19 pandemic, a period marked by elevated stress, isolation, and restricted access to support services. These conditions are known to exacerbate IPV risk and reduce opportunities for victims to seek help (Piquero et al., 2021).

Although the total number of cases remained within a relatively narrow band—between 83,000 and 92,000 annually—the changing gender composition suggests that IPV dynamics are evolving in more complex ways than case volume alone can capture.

This gender divergence raises pressing questions about reporting accessibility, public awareness, and service equity. Structural barriers continue to silence the experiences of many victims—especially men, LGBTQ+ individuals, and Indigenous populations—who often report lower trust in authorities or greater fear of disbelief. Their under-representation in administrative records may not reflect a lower risk of victimisation but rather a greater risk of invisibility.

These findings point to a need for refined IPV monitoring tools and targeted prevention strategies. Aggregated numbers can give a false sense of stability, concealing underlying shifts in risk and access. Decision-makers should move beyond generic solutions and invest in culturally appropriate, gender-inclusive, and geographically accessible interventions. Outreach efforts should explicitly acknowledge the diversity of IPV experiences, and frontline services must be equipped to respond to victims across the gender and identity spectrum.

From the perspective of research, this analysis reiterates the value of combining rate-based methods with relational and network-based modelling. By integrating these perspectives, we can truly capture the social and structural architecture of the IPV—that is, how it moves through systems of relationships, how it is shaped by geography and identity, and how it changes over time.

Age-Stratified Risk Analysis

As we progressed through the analysis of intimate partner violence (IPV) in Canada, it became increasingly clear that aggregated figures obscure important age-based differences. From a policy and prevention perspective, identifying *when* people are most at risk is just as crucial as understanding *who* is affected. This motivated us to disaggregate IPV rates by age group, with the goal of uncovering more targeted insights into when victimisation is most likely to occur.

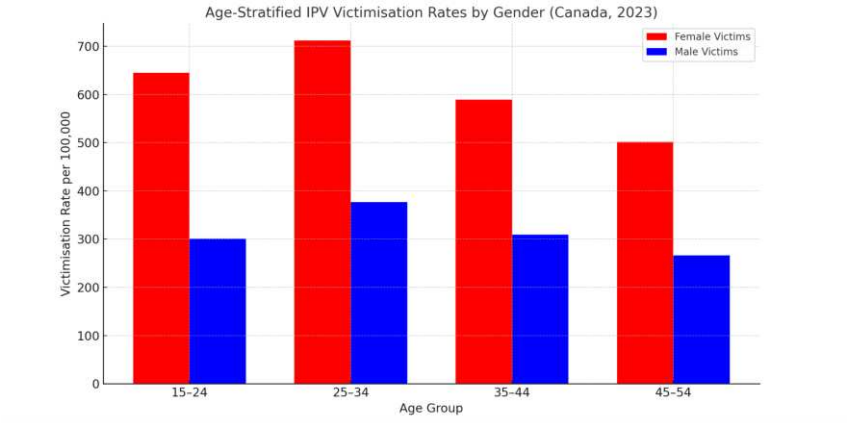
Canada's shifting demographic landscape—including later entry into cohabiting relationships and longer lifespans—makes this kind of age-sensitive analysis all the more relevant. To ensure comparability across groups, we used police-reported data from the

Uniform Crime Reporting (UCR) Survey, stratified into four key age categories: 15–24, 25–34, 35–44, and 45–54. Groups under 15 and over 55 were excluded due to consistently low reporting levels and high data sparsity across the ten-year period.

Population estimates by age and gender were sourced from Statistics Canada (CANSIM Table 17-10-0005-01), allowing us to calculate standardised IPV rates per 100,000 individuals for each age-gender group using the formula:

$$IPV\ Rate_{a,g,t} = \left(\frac{N_{a,g,t}}{P_{a,g,t}}\right) \times 100{,}000$$

where $N_{a,g,t}$ represents the number of IPV cases for age group a, gender g, in year t, and $P_{a,g,t}$ is the corresponding mid-year population. To ground our comparison in current trends, we used 2023 data as the reference year.



The age-disaggregated results revealed a consistent pattern across the gender divide: individuals in their mid-20s to mid-30s faced the highest rates of IPV. Among women aged 25–34, the 2023 rate stood at 712.2 per 100,000, followed by 645.3 per 100,000 among those aged 15–24. For men, the 25–34 age group also recorded the highest victimisation rate, at 377.0 per 100,000. (see Fig. 2)

This peak in early adulthood aligns with findings from earlier studies (Brownridge, 2008; Wells et al., 2013), which suggest that this life stage—often marked by relationship formation, shared living arrangements, parenting, and financial stress—brings heightened emotional and economic interdependence. These conditions may increase both the opportunity and context for relational conflict to escalate into abuse.

To deepen our understanding of sex-based disparities, we examined the female-to-male victimisation ratio within each age group. The 15–24 category showed the widest gap, with a relative risk ratio (RRR) of 2.14, meaning young women in this group were more than twice as likely to report IPV than their male counterparts:

$$RRR_a = \frac{R_{a,female}}{R_{a,male}}$$

The ratios remained relatively stable across older age brackets: 1.89 for ages 25–34, 1.91 for 35–44, and 1.88 for 45–54. These figures confirm that women consistently bear a disproportionate burden of IPV, especially during young adulthood. Yet these findings must be interpreted with care. A growing body of literature documents the structural and cultural factors that suppress male disclosure, including fear of stigma, assumptions about masculinity, and limited service access (Lysova & Dim, 2022). Therefore, the actual disparity in risk may be narrower than reported data suggest.

A gradual decline in IPV rates with age was observed for both genders. Among women, the rate dropped by nearly 30% between the 25–34 and 45–54 groups. A similar trend appeared among men. This tapering may reflect various life-course changes—greater emotional regulation, more stable partnerships, or simply fewer high-conflict relational transitions later in life.

However, it would be premature to assume that older adults are immune to IPV. Emotional manipulation, financial control, and coercive dependence are all forms of abuse that may not trigger police involvement, especially among older populations. In fact, the apparent drop in IPV with age may say more about what gets reported than what actually occurs. This underlines the need for mixed-method data sources to capture subtler, non-physical forms of violence often under-represented in crime statistics.

The concentration of IPV risk in the 15–34 age range strongly suggests that early intervention is essential. Educational programs targeting adolescents and young adults—particularly in high schools, universities, and job training centres—could help cultivate relational skills and awareness before patterns of harm become entrenched. Topics such as healthy communication, consent, boundary-setting, and conflict de-escalation should form core components of these initiatives.

Equally important is the need to acknowledge male victimisation, particularly in the 25–34 demographic, where rates remain significant. Current IPV services—ranging from shelter provision to mental health support—are still largely designed with female victims in mind. As a result, men may encounter invisible barriers even when they do seek help. A more inclusive approach would involve revising service mandates, expanding gender-neutral counselling programs, and building public messaging that affirms the validity of all survivors' experiences.

This age-stratified analysis reinforces the value of viewing IPV not just through demographic or geographic lenses, but across the life course. Recognising the developmental context of abuse can help shift interventions from reactive to proactive, tailored to when individuals are most vulnerable and most likely to benefit from support.

Ultimately, IPV is not evenly distributed across age, gender, or circumstance. A life-course approach—rooted in both data and compassion—can help researchers, practitioners, and policymakers respond in ways that are more timely, equitable, and attuned to the lived realities of those affected.

Relationship Centrality in IPV Network (2023)

As we moved beyond simple incident counts, we found ourselves asking a deeper question: What kinds of relationships are structurally central to the persistence of intimate partner violence (IPV)? Not all partnerships are equal in how they distribute, reproduce, or sustain abuse. Some—like marriages or long-term cohabitations—may offer more opportunity for chronic harm. Others, like casual or undefined relationships, may seem less stable yet still hold meaningful risk. Rather than treating IPV cases as isolated events, we chose to explore how different types of intimate relationships are embedded within a national network of violence.

To do so, we used social network analysis to model IPV as a weighted, undirected graph, where each node represented a relationship category and each edge reflected documented IPV incidents. Self-loops were retained to account for violence recurring within the same relationship type—such as chronic abuse among spouses or repeated aggression following a breakup. The five core relationship categories in our model were (1) current legal spouse, (2) common-law partner, (3) former partner or ex-spouse, (4) dating or non-cohabiting partner, and (5) casual or undefined partner. Edge weights were proportional to the number of IPV incidents associated with each relationship type or connection between types.

We began with degree centrality, which measures how often a node appears in the network. In 2023, current spouses were linked to 34,700 of 90,600 total reported IPV incidents—yielding a normalised degree centrality of 0.383. Former partners followed at 0.324 (29,300 incidents), and dating partners contributed 17,300 cases (0.191). Common-law and casual relationships had considerably lower centrality scores, at 0.074 and 0.029, respectively.

These figures offer more than a descriptive breakdown—they signal where violence most frequently resides. While long-term relationships still dominate the network, the relatively strong showing of dating relationships, especially among younger individuals, points to shifting norms in how and where IPV occurs. As more people delay formal unions, the risk landscape increasingly extends into informal or transitional partnerships.

However, frequency alone can be misleading. A relationship type may not appear most often, but it may still sit at the heart of the IPV network due to its connections to other highly active nodes. To capture this, we calculated eigenvector centrality—a measure of structural influence, not just presence.

In our analysis, current spouses held the highest eigenvector score (normalised to 1.000), followed by former partners (0.873) and dating partners (0.669). These results suggest

that dating violence, while less visible in raw counts, often links into clusters of more chronic or severe abuse. This aligns with prior research suggesting that early experiences with dating violence may escalate into patterns of coercion or control in longer-term unions (Exner-Cortens et al., 2013).

We also looked at clustering coefficients, which tell us whether IPV occurs in isolation or as part of overlapping relational environments. A high clustering score indicates that relationship types are closely embedded with others—pointing to social or geographic tightness.

In 2023, current spouses had a clustering coefficient of 0.74, with former partners close behind at 0.69. Dating relationships followed at 0.52, common-law partners at 0.48, and casual or undefined partners at 0.37. These findings suggest that IPV in long-term relationships tends to exist in tightly bound relational ecosystems, where other forms of connection—children, cohabitation, shared finances—can make disengagement difficult.

This pattern became even more pronounced in rural and northern regions. In places like Nunavut and the Northwest Territories, clustering coefficients exceeded 0.80, underscoring how social proximity and geographic isolation can trap victims in cycles of repeated abuse. These findings echo longstanding concerns from community workers and researchers about the relational entrapment faced by survivors in remote areas (Brownridge, 2006).

Wanting to go further, we used modularity-based clustering—specifically the Louvain algorithm—to identify subnetworks of high internal IPV connectivity. One standout community emerged among former partner relationships in rural Manitoba, particularly among individuals aged 25 to 34. This cluster had a degree density of 0.62, an average IPV rate 1.6 times the national mean, and high edge-weight variance, signalling both repeated and intensifying harm.

What made this finding compelling was its practical relevance: it suggests a need for tailored intervention strategies in specific relationship and geographic configurations. Generalised policy may miss these clusters, but network analytics can bring them into sharper focus.

To translate these patterns into actionable insight, we visualised the 2023 IPV network using the Fruchterman–Reingold force-directed layout. Nodes were sized by degree centrality and colour-coded by relationship type. As expected, current and former spouses clustered tightly at the network centre, reflecting their dominance in both frequency and structure. Casual and dating relationships appeared closer to the periphery but maintained important bridges to core relational clusters—a reminder that early or informal partnerships are not exempt from serious harm.

This network-based approach deepened our understanding of IPV in Canada. It reinforced that violence is not evenly distributed, nor is it randomly scattered across the population. Instead, IPV tends to concentrate in structurally central relationships—especially

long-term unions—and to cluster within tightly connected communities, particularly in rural and remote regions.

Importantly, the growing centrality of dating and undefined relationships shows that informality does not equal safety. These ties may lack legal recognition or public visibility, but they can be structurally significant in sustaining cycles of abuse.

Recognising IPV as a networked, relational phenomenon shifts how we think about prevention. It suggests that policy and intervention efforts should not only focus on individual behaviours but also target relationship types and positions most likely to reproduce harm. Doing so enables a more strategic, context-sensitive approach—one that addresses both the who and the how of IPV as it unfolds within Canada's evolving relationship landscape.

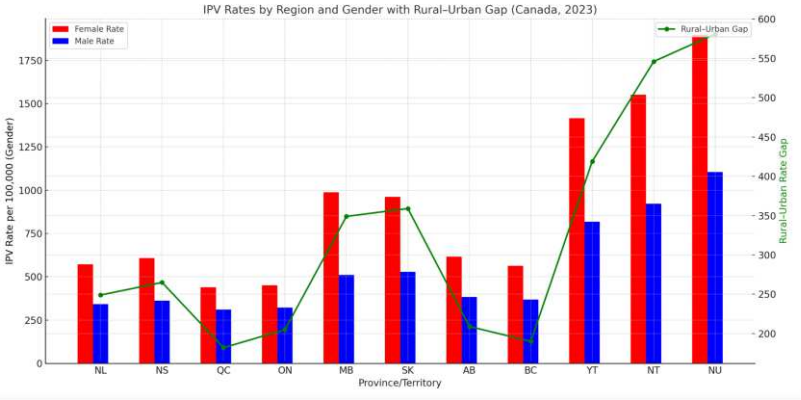
Regional Disparities

As we moved from national summaries to finer-grained analysis, it became evident that intimate partner violence (IPV) in Canada is deeply uneven in its geographic distribution. National averages, while useful for general orientation, conceal sharp regional contrasts rooted in social inequality, resource access, and historical context. To understand where the risk is most acute—and why—we disaggregated police-reported IPV data from the 2023 Uniform Crime Reporting (UCR) Survey by province, territory, and urban–rural status.

Our aim was not simply to describe variation but to interrogate the structural and spatial factors that shape IPV vulnerability. Using population estimates from Statistics Canada (CANSIM Table 17-10-0005-01), we calculated standardised incidence rates per 100,000 individuals for each region:

$$IPV\ Rate_{r,g} = \left(\frac{N_{r,g}}{P_{r,g}}\right) \times 100{,}000$$

Where $N_{r,g}$ is the number of reported IPV cases for gender group g in region r, and $P_{r,g}$ is the corresponding population. We also calculated rural–urban gaps within each province and territory by subtracting urban rates from rural rates. This has helped us to better visualise that how geography itself shapes exposure to risk.



The clearest finding was also the most sobering: Canada's three northern territories—Yukon, the Northwest Territories, and Nunavut—consistently report the highest IPV rates in the country, often exceeding national averages by two to four times. In Nunavut, for example, the 2023 IPV rate reached 1,898 per 100,000 for women and 1,106 per 100,000 for men. (See Fig. 3)

These figures are not anomalous. They reflect the cumulative weight of structural vulnerabilities, including housing shortages, high rates of substance use, and chronic underinvestment in community-based services. Moreover, the impact of colonial legacies, intergenerational trauma, and systemic racism cannot be ignored—especially in predominantly Indigenous communities where these conditions are most acute (Brownridge, 2008; RCAP, 1996).

Among the provinces, Manitoba and Saskatchewan emerged as particular areas of concern. In rural parts of both provinces, women's IPV rates exceeded 1,100 per 100,000, while men's rates surpassed 500 per 100,000—both well above the national average (see Fig. 3). These two provinces also exhibited the largest rural–urban disparities, with rural rates outpacing urban ones by more than 350 per 100,000. Such gaps underscore service delivery limitations and intensified social isolation in sparsely populated regions.

Across Canada, one theme remained constant: IPV is more commonly reported in rural areas. In 2023, the average rural–urban gap for women stood at approximately +290 per 100,000. This differential is not simply a function of reporting but reflects real constraints on victims' ability to seek help. Rural communities often lack reliable transportation, trauma-informed first responders, and accessible shelters. Social norms around privacy and loyalty may further discourage victims from coming forward—especially in small towns where everyone knows each other.

While women consistently reported higher IPV rates than men in every jurisdiction, rural and northern men were noticeably over-represented relative to their urban counterparts. In the Northwest Territories, for example, the male IPV rate reached 922 per 100,000—exceeding the female rate in several southern provinces. These patterns challenge the assumption that male victimisation is rare or marginal and highlight the need for more inclusive policy frameworks that reflect a broader range of experiences.

To quantify gender differences, we calculated provincial gender ratios (female rate ÷ male rate). These ranged from 1.40 in Ontario to 1.82 in Saskatchewan. Interestingly, the ratio tended to narrow in regions with the highest absolute IPV rates, suggesting that community-level stressors raise risk across the board, rather than for one gender alone. This trend reinforces the idea that place matters as much as personal history in shaping vulnerability to IPV.

These disparities are not random. Regions with the highest IPV rates also tend to rank poorly on indicators such as employment, infrastructure access, and health equity. The correlation between IPV and socio-economic marginalisation is particularly stark in the North,

where colonialism's aftershocks continue to affect community cohesion and trust in institutions.

Reports from the Truth and Reconciliation Commission (2015) and the National Inquiry into Missing and Murdered Indigenous Women and Girls (2019) have repeatedly emphasised that violence against Indigenous women must be viewed through a historical and structural lens—not as isolated crimes, but as symptoms of deeper political and cultural dislocation.

These regional findings carry immediate implications for IPV policy and prevention. A standard national strategy is unlikely to succeed in a country as large and socially diverse as Canada. Instead, responses must be tailored to local realities. In the regions with high IPV prevalence, interventions may need to prioritise rural shelters, mobile outreach units, Indigenous-led healing and prevention programs.

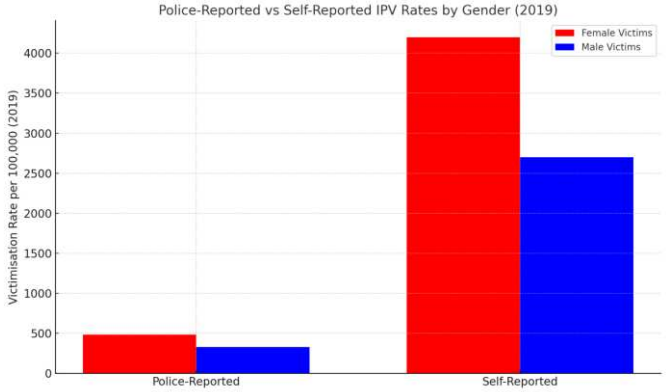
By acknowledging IPV as a spatially patterned phenomenon, rather than a purely interpersonal one, we open the door to more nuanced and effective interventions. The consistently elevated rates in northern and prairie regions—for both women and men—highlight the importance of place-based criminological research and demand policies that are geographically grounded and culturally responsive.

What Victims Report and What They Feel

As we began working with administrative records, it quickly became apparent that the Uniform Crime Reporting (UCR) Survey captured only part of the intimate partner violence (IPV) landscape. While valuable for identifying patterns within the criminal justice system, these data reflect only those cases that make contact with law enforcement. Early on, we realised this left many voices out—particularly male victims and individuals in rural or northern regions, where barriers to reporting are especially high. To address this gap, we incorporated findings from the General Social Survey (GSS), which collects self-reported IPV experiences, including emotional effects and help-seeking behaviour (Statistics Canada, 2021).

One of the most striking findings was the stark gender gap in police reporting. According to the 2019 GSS, 64% of women who experienced IPV said they contacted police, compared to only 28% of men (see Fig. 4). Initially, we assumed that growing awareness might have narrowed this gap. Instead, the data revealed persistent disparities. When scaled to national population estimates, nearly 798,000 women and 483,300 men reported experiencing IPV over a five-year span—yet men made up only 16% of police-reported cases (Lysova & Dim, 2022).

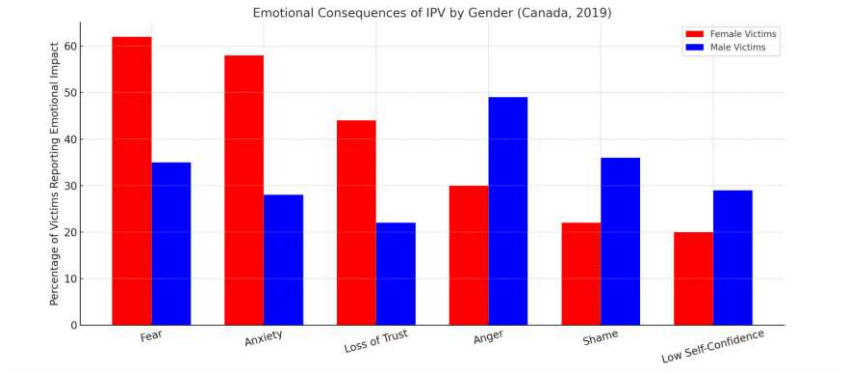
This disjuncture raised difficult but important questions. Why are so many men—nearly 38% of self-identified IPV victims—missing from the official record? The literature offered clear answers: stigma, fear of disbelief, and limited availability of male-oriented services continue to discourage disclosure (Dutton, 2012; Lysova & Dim, 2022). These barriers are not peripheral—they are central to understanding the under-representation of men in criminal justice statistics and service frameworks.



When we turned our attention to the psychological effects of IPV, we were surprised by the breadth and intensity of emotional harm reported. At first, we expected strong emotional impacts only in cases involving prolonged or physical violence. But GSS data painted a broader picture: 84% of female victims reported significant emotional distress—including fear (62%), anxiety (58%), and loss of trust (44%) (see Fig. 5).

Male respondents, while less likely to report, also described deep emotional tolls. Roughly 72% reported experiencing anger, shame, or social withdrawal (Statistics Canada, 2021). These findings aligned with gendered patterns of emotional coping observed in prior research, where women often externalise harm (fear, hypervigilance) and men tend to internalise it (withdrawal, self-blame) (Mahalik et al., 2003).

When scaled nationally, this represents approximately 670,000 women and 348,000 men affected by emotional distress due to IPV in 2019 alone. These numbers far exceed what is visible in police or legal records and reinforce the view that IPV is as much an emotional and psychological crisis as it is a criminal or legal issue (Exner-Cortens et al., 2013; World Health Organization, 2021).



Beyond reporting to police, we explored victims' efforts to access non-legal support systems—counselling, shelters, crisis lines, and other services. Here, too, gender disparities were clear. Only 7% of male victims reported accessing professional support, compared to 18% of women (Statistics Canada, 2021). While we initially expected these rates to be higher,

especially for women, the survivor testimony and qualitative research helped contextualise the low figures.

Barriers in accessing support often include stigma, financial dependence, geographic isolation, and the lack of culturally appropriate services—especially for Indigenous, LGBTQ+, and male victims (Brownridge, 2008; Lysova & Dim, 2022). In small communities, where anonymity is rare and judgement swift, seeking help can itself be a risky decision.

As our analysis deepened, we encountered another underexplored issue: legal attrition—the discontinuation of formal proceedings after an IPV case is initially reported. Reviewing provincial data, we found that nearly 40% of IPV cases were withdrawn, stayed, or not pursued to prosecution (Department of Justice Canada, 2021).

Initially, we debated whether to include this in our analysis. The attrition rate varied significantly by province, and available data lacked consistency. But repeated references in GSS responses and survivor interviews made it difficult to ignore. Victims commonly abandoned legal proceedings due to fear of retaliation, emotional exhaustion, financial ties to the perpetrator, or distrust of the justice system (Comack, 2012). These patterns reinforced our sense that formal systems often fall short of supporting victims beyond the point of reporting.

We hadn't originally intended to integrate emotional outcomes into our central model. Our initial focus was more conventional—rates, demographics, and legal follow-through. But the weight of the emotional data made it clear that ignoring this dimension would be a disservice to the broader reality of IPV.

This shift in emphasis echoed the recommendations of major national inquiries, including the Truth and Reconciliation Commission (2015) and the National Inquiry into Missing and Murdered Indigenous Women and Girls (2019). Both stress that IPV must be understood not only as a legal or interpersonal issue but as an experience marked by historical trauma, systemic failure, and deep emotional consequences. Survivors have said as much for years. Our data only confirmed it.

What began as an effort to fill statistical gaps ended up reshaping our understanding of harm and resilience. IPV is not merely a matter of physical injury or legal intervention—it is an emotionally profound, often invisible experience that affects how people trust, connect, and survive.

Discussion

Over the past decade, intimate partner violence (IPV) in Canada has followed patterns that appear steady at the national level but reveal significant complexity when examined more closely. This study set out to move beyond surface-level counts and consider how age, geography, and relationship context intersect to shape vulnerability. Through that lens, what initially looked like stability became a much more dynamic—and unequal—landscape of risk.

One of the most consistent findings was the elevated IPV rate among adults aged 25 to 34. This age group stood out in both police-reported and self-reported data, with women in 2023 experiencing over 700 incidents per 100,000 and men nearly 380 per 100,000. These figures reinforce existing research that links early adulthood to heightened IPV exposure, often tied to relationship transitions, cohabitation, parenting stress, and financial precarity (Brownridge, 2008). While the general pattern is well established, its persistence suggests that current prevention strategies may not be reaching this group effectively.

What was especially noteworthy, however, was the narrowing gender gap in this age range. Although women continue to report higher overall rates of IPV, men aged 25 to 34 are affected at levels that call for much greater attention. This complicates traditional narratives that position IPV primarily as a women's issue and raises questions about service accessibility for male survivors—particularly younger men who may struggle to frame their experiences as valid or reportable. Prevention initiatives focused exclusively on one gender may inadvertently obscure the full scope of relationship violence.

Geographic disparities further underscored the unevenness of IPV in Canada. The Prairie provinces and northern territories, particularly Saskatchewan, Manitoba, Nunavut, and the Northwest Territories, reported IPV rates well above the national average. These patterns are not statistical outliers; they reflect long-standing structural disadvantages. Many of these regions continue to face underinvestment in social services, limited access to shelters, and delays in emergency response, especially in rural or remote communities. In these contexts, social stigma, tight-knit community ties, and geographic isolation combine to make both disclosure and escape more difficult (Pruitt, 2008).

Our findings also show that relationship history plays a significant role in IPV dynamics. Over 70% of incidents involved current or former intimate partners, with former partners often appearing in the networks marked by clustering and repetition. This suggests that the separation does not necessarily end the risk. In fact, post-separation abuse may become more structurally entrenched, particularly in small communities where relational overlap and limited anonymity constrain victims' ability to disengage safely (Brownridge, 2006).

These relational patterns became clearer through our application of network analysis. Rather than viewing IPV as a set of disconnected incidents, we sought to model it as part of a social structure—a web of relationships in which certain nodes (e.g., former partners) consistently appeared more central and embedded. This approach allowed us to see patterns that traditional cross-tabulations might miss, offering a framework that more accurately mirrors how IPV unfolds in everyday life: not as isolated acts but as sustained harm embedded in emotional and social ties.

Limitations

As with any study drawing on national administrative and survey data, this research carries important limitations that shape how its findings should be interpreted. Our analysis primarily relied on two sources: police-reported data from the Uniform Crime Reporting (UCR) Survey

and self-reported experiences from the General Social Survey (GSS). Each brings distinct strengths but also notable blind spots.

The UCR captures only those incidents that come to the attention of law enforcement. This necessarily excludes a significant portion of IPV cases—particularly among male survivors, individuals in rural or remote communities, and members of Indigenous populations, who may face additional barriers to disclosure. In contrast, GSS data offer a broader view by capturing experiences outside the formal justice system, but they depend heavily on respondents' memory recall, interpretation of events, and willingness to disclose, all of which are shaped by social norms and personal histories. These dynamics can vary across cultural, regional, and generational lines, introducing uncertainty into prevalence estimates.

Another constraint lies in our application of network analysis. Due to privacy protections and data anonymisation protocols, we were unable to trace specific individuals or relationships over time. This meant that our analysis had to aggregate incidents by relationship category—such as "current spouse" or "former partner"—rather than tracking relational trajectories or recurrence of abuse within specific partnerships. While this approach enabled us to identify broader structural patterns, it limited our ability to model longitudinal dynamics, such as escalation, separation, or re-engagement over time.

There were also notable data gaps in key social determinants. Variables such as income, education level, immigration status, and mental health history were not consistently available across our data sources. These dimensions are central to understanding intersectional risk and may affect both the likelihood of experiencing IPV and decisions around reporting or seeking help. Without them, our analysis could not fully account for the cumulative disadvantage or resilience that shapes IPV vulnerability in real-world contexts.

Geographic granularity presented an additional limitation. While we were able to compare the provinces and territories, more localised insights—at the level of individual communities, municipalities, or neighbourhoods—were not possible with the data at hand. This was particularly limiting in the northern regions, where access to healthcare, emergency services, and shelters varies significantly between communities. Such local-level differences often have a direct bearing on both IPV prevalence and survivorship outcomes but remain largely invisible at the national scale.

Another gap lies in the way gender is measured. While this study included both male and female survivors, the underlying datasets primarily operate within binary gender frameworks, limiting our ability to examine IPV among transgender, non-binary, or gender-diverse individuals. This is a significant shortcoming, especially given emerging evidence that these groups often experience elevated and unique forms of partner violence. Their limited representation reflects broader gaps in national data collection tools, which have yet to fully adapt to the diversity of gender and sexual identities in Canada today.

These limitations reflect the broader challenge of studying a complex and emotionally charged social phenomenon like IPV using large-scale, standardised datasets. While these tools

allow for comparability and breadth, they often sacrifice depth, nuance, and inclusivity. The findings reported here should thus be read not as a complete account but as one layer in a much larger picture.

Looking ahead, future research would benefit from the mixed-method approaches that pair national statistics with community-based studies, qualitative interviews, and ethnographic fieldwork—particularly in the under-represented populations. Expanding the voices included in IPV research is not only an ethical imperative but a methodological necessity. Only by listening to those who are most affected—yet least visible—can we build a more accurate and just understanding of IPV in all its forms.

Conclusion

This study set out with a central goal: to better understand how intimate partner violence (IPV) in Canada has evolved over the past decade—not only through national statistics, but by bringing together police-reported incidents, self-disclosed experiences, and network-based analysis. What we found was not a story of uniformity but one of patterned variation. IPV in Canada is not evenly distributed, nor does it affect all populations in the same way. Instead, it reflects the intersection of social, relational, and structural forces that shape both vulnerability and response.

One of the clearest and most consistent findings was the elevated IPV risk among adults aged 25 to 34. Across both administrative and survey data, this age group—especially women—reported the highest rates of victimisation in 2023. Men in the same age bracket were also notably affected, though their experiences were more visible in self-reported surveys than in police records. These patterns reaffirm the idea that early adulthood is a critical window of vulnerability, marked by relational transitions, financial stress, and evolving domestic roles. From a prevention standpoint, these findings make a strong case for proactive education—including curriculum in high schools, post-secondary institutions, and job training programs that center healthy communication, consent, and emotional regulation before cycles of violence take hold.

The use of network analysis further deepened our understanding. IPV does not occur randomly across relationship types; rather, it concentrates in emotionally complex or persistent relational structures—especially among current and former partners. These connections often carry forward even after formal separation, reinforcing findings from other research on stalking, post-breakup violence, and relational entrapment. Provinces like Ontario and British Columbia have already developed promising responses—such as Family Court Support programs and post-separation counselling initiatives—that move beyond incident-based interventions and recognise the durability of IPV risk over time.

Geographic disparities also featured prominently in our findings. Rural and northern communities, including the territories and Prairie provinces, continue to report disproportionately high IPV rates. These figures reflect more than population differences; they are a reflection of service gaps, geographic isolation, and long-standing structural neglect,

particularly in Indigenous and remote areas. Community-led organisations—such as Pauktuutit Inuit Women of Canada and the Native Women's Association of Canada—are filling critical gaps where formal systems fall short. Their locally grounded approaches offer valuable models for responsive, culturally anchored policy design.

One of the most under-recognised issues that emerged was the under-representation of male victims in official IPV data. Surveys indicate that men—especially younger men—account for a substantial share of IPV experiences, yet they remain largely invisible in formal records. This underreporting is not necessarily a reflection of lower risk but of barriers rooted in stigma, gender norms, and lack of tailored support. Initiatives such as Men's Sheds Canada and the Canadian Centre for Men and Families represent early steps toward more inclusive service provision, but broader awareness, resource allocation, and professional training are still urgently needed.

We also encountered compelling evidence of the emotional and psychological toll of IPV, which often goes unacknowledged in legal or policy discourse. Feelings of fear, mistrust, shame, and long-term anxiety were frequently reported in survey responses—even among those who never interacted with police. This underlines the need to centre emotional harm in both support services and prevention strategy. Organisations such as ShelterSafe and Victim Services Ontario already provide trauma-informed counselling and culturally responsive care, but their reach and visibility must expand if emotional trauma is to be treated with the urgency it deserves.

Taken together, these findings point to a clear conclusion: IPV is not random. It follows a predictable pattern and follows a consistent structure—and therefore, it is preventable. It is shaped by structural inequities, relational histories, and institutional blind spots. Addressing it requires more than broad policies; it demands targeted, equity-focused, and locally informed strategies. That means expanding supports for historically underserved groups, improving access in high-risk regions, and investing in interventions that tackle both proximal triggers and root causes—such as poverty, housing insecurity, and relationship precarity.

In the end, the challenge is not simply to respond to IPV more quickly but to recognise its underlying architecture. When we map and understand the patterns, we position ourselves to disrupt them—with foresight, fairness, and precision. That is how systems become not just reactive, but genuinely preventative.

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