



Comparing youth and adult homicide victimization in Finland 2002–2018: A latent class approach

Janne Kivivuori

Professor, Institute of Criminology and Legal Policy, University of Helsinki

janne.kivivuori@helsinki.fi

<https://orcid.org/0000-0002-3572-0791>

Maiju Tanskanen

Postdoctoral Researcher, Institute of Criminology and Legal Policy, University of Helsinki

maiju.tanskanen@helsinki.fi

<https://orcid.org/0000-0002-2328-3563>

Karoliina Suonpää

Postdoctoral Researcher, Institute of Criminology and Legal Policy, University of Helsinki

karoliina.suonpaa@helsinki.fi

<https://orcid.org/0000-0002-0685-2445>

Anna Raeste

Planning Officer, Institute of Criminology and Legal Policy, University of Helsinki

anna.raeste@helsinki.fi

<https://orcid.org/0009-0005-6349-2553>

Abstract

While it is well reported that most homicides in Finland occur in drinking group contexts, primarily involving marginalized middle-aged men, less is known about whether homicide among young victims deviates from this pattern. This research describes how young homicide victims (15-29-year-olds) differ from adult victims (30+). We drew data from the Finnish Homicide Monitor from the years 2002 to 2018 (N = 1,633 victims) and used latent class analysis to identify subgroups of homicide victimization. Three of the emerging six types were significantly more prevalent among young victims: drug-use-related context, public place violence in situational alcohol use context, and premeditated firearm violence in public places. The last mentioned subtype is related but not fully reducible to the two major school shooting incidents during the study period. Overall, the patterns of youth homicide victimization differ markedly from the historically typical Finnish homicide. In terms of policy relevance, the findings tentatively point to the need to combine holistic drug harm reduction policies with criminal justice-related measures.

Keywords

homicide, youth, victimization, latent class analysis

Homicide causes substantial immaterial costs in the form of the grief suffered by the surviving family and friends. It also incurs heavy societal material costs in terms of loss of life. Arguably, such losses are particularly large when the homicide victim is a young person. Some estimates suggest that in terms of societal costs, violence against adolescents is a larger problem than the violence committed by them (Miller et al., 2001). The United Nations Office for Drugs and Crime has estimated that in the ten-year period from 2008 to 2017, 205,000 children aged 0–14 were killed globally. In the 15–29 age group, the corresponding death toll was 1.6 million (UNODC, 2019, p. 11). In many countries, the homicide age-crime curve peaks among young persons, highlighting the social relevance of this subtype of homicide (Granath et al., 2011).

Compared to youth homicide offending, there has been a shortage of research on youth homicide victimization (Muftić & Moreno, 2010). Moreover, existing knowledge on youth homicide victimization is heavily dependent on studies conducted in the United States. The studies are thus conducted in a general high homicide rate societal context, often with data drawn from high-risk populations or locations. Therefore, there is a need to broaden the evidentiary base to reflect European contexts.

Finnish homicide rates are low by global standards, yet higher than the corresponding rates in other Nordic countries (Lehti et al., 2019). This difference between Finland and other Nordic welfare states has been described as a “puzzle” and explained by the high prevalence of drinking group violence between marginalized and middle-aged males (Savolainen et al., 2008). While the Finnish age-crime curve of homicide is anomalous in featuring a strong presence of middle-aged persons, it too peaks during young adulthood. In addition, alcohol-related homicides of working-age men have decreased over the past two decades (Lehti, 2014; Suonpää et al., 2022). It is possible that the current Finnish homicide scene shows signs of diverging from the pattern indicated by Savolainen et al. (2008) and moving closer to the European mainstream with a stronger component of youth and young adult crime (Granath et al., 2011).

The core of the Finnish “puzzle”, drinking group-related homicides between marginalized males with substance abuse problems, has been extensively documented in prior research (Savolainen et al., 2008; Kivivuori & Lehti, 2011). Also, the second most prevalent type of homicide, intimate partner killing, has been dissected in terms of social context and offense patterning (Kivivuori & Lehti, 2012; Suonpää & Savolainen, 2019). In contrast, we lack a similarly in-depth view of homicide against young people.

Patterns of lethal conflicts may differ between young and adult victims and within young age groups, between children, adolescents, and young adults (Moskowitz et al., 2005; Pelletier, 2023). If they do, the means and contact points of violence prevention may also differ, justifying the current research focus (Flewelling & Williams, 1999; Blumstein et al., 2000). We therefore examine the patterns of youth homicide in a comparative and inductive fashion, to see whether distinctive patterns emerge when using a database including all homicides. The study aims are descriptive: we examined the characteristics of the victims, their killers, and the incidents through which they died. In the existing literature, research on youth homicide and research on adult homicide are typically separated from one another and cover the period up to the early 2000s. We have added to prior research by focusing on the more recent period, between 2002–2018, with an inductive-comparative design. In the conclusion we discuss the implications of the findings for preventing lethal violence against youth.

Prior research

Several studies have analyzed the patterns and risk factors of youth homicide offending (e.g., Farrington & Loeber, 2011a; Farrington et al., 2012; Ahonen et al., 2016; Fox et al., 2021), including studies in Finland (Hagelstam & Häkkänen, 2006; Lehti, 2007). There has

been a preponderance of offending studies in contrast with victimization studies (Muftić & Moreno, 2010). This imbalance applies to both descriptive analyses and theoretical approaches (Farrington & Loeber, 2011a, pp. 10, 15). Existing youth homicide victimization studies can be divided into predictor- and outcome-oriented designs. While our study represents the latter approach, we addressed both due to the relatively limited extent of relevant prior research.

Risk factors of homicide victimization

Risk factor studies are typically longitudinal designs using a baseline sample of high-risk youths who are then followed for a sufficiently long time to accumulate terminal events (homicide victimizations). Studying California Youth Authority parolees, Piquero et al. (2005) found that low self-control predicted the risk of youth homicide victimization. They used a behavioral composite measure of self-control, with sub-dimensions like school disciplinary problems, aggression, gang activity, drug/chemical abuse, and alcohol abuse. Ezell and Tanner-Smith (2009) likewise analyzed California Youth Authority releasees, observing that gang membership, violent history, ethnicity and race, and family criminality were related to the risk of homicide victimization, while alcohol and drug abuse were not. The results were largely consistent with lifestyle and routine activity theories. Farrington and Loeber (2011b) used the Pittsburgh Youth Study high-risk follow-up population to examine risk factors of subsequent homicide victimization. They found several topical risk factors, such as lack of guilt, large family size, bad relations with a parent, and prior crime (Farrington & Loeber, 2011b, p. 106). The homicide victims tended to have more contacts to drug-related crime than the controls. While both homicide offenders and victims came from disadvantaged backgrounds, compared to offending risk, victimization risk appeared more strongly linked to individual-level factors (Farrington & Loeber, 2011b).

A growing body of research has examined how social networks impact the risk of violent victimization. The emerging finding is that connections to gangs or co-offending networks is a major risk factor of gunshot and homicide victimization (Papachristos et al., 2012; Papachristos et al., 2015; Braga, 2022). These findings derive from research sites where the age-crime curve peaks strongly in young and young adult age groups.

While these studies examine individuals and their connections to networks, other risk factor studies have examined areas as observation units. Thus, Strom and MacDonald (2007) found that the U.S. city-level increase in socioeconomic disadvantage was positively associated with increases in youth homicide victimization during the 1980s and early 1990s, net of drug market effects. One of the suggested mechanisms mediating structural disadvantage and homicide risk was weakness of informal social control in the community, as predicted by social disorganization and control theories. In a notable study from outside the United States, Swart et al. (2016) studied 15-19-year-old homicide victims in Johannesburg, South Africa, using a similar area-based analysis. They found that concentrated neighborhood disadvantage increased the risk of male and female adolescent homicide victimization.

Patterns of homicide events

The above cited studies typically have non-victims in the data as well, enabling them to study risk factors. Another set of studies focuses on completed homicides to describe and disaggregate them. Thus, Moskowitz et al. (2005) observed that 0-9-year-old victims were 33 times more likely than 10-19-year-olds to have been killed by a family member, justifying a separate focus on adolescents and young adults. Studying homicide against youths in Dallas, Texas, between 1986 and 1997, Muftić and Moreno (2010) corroborated the differing

nature of child victimization and victimization against older youth groups. Holland et al. (2019) examined youth homicide victimization taking place in U.S. schools. They observed that single-victim incidents involved typically male victims (77%) while in multiple homicide incidents, the victim gender distribution is equal (50% males). Pelletier (2023) compared child and teen firearm homicide victims, observing that teen victimization was more often linked to the drugs and alcohol-related context. Pelletier argued that child and teen victimization is so different in contexts and motives that they need to be addressed separately in research and policy. Studying the toxicology data of homicide victims in Trinidad and Tobago, Kuhns and Maguire (2012) observed that young homicide victims were more involved in cannabis use than in other drugs abuse. The researchers recommended more studies on the links between drug use, drug markets and violence.

Summarizing data from 41 countries, the United Nations Office for Drugs and Crime has noted differential trends: a decrease in Europe and an increase in the Americas, with changes linked mostly to male victimization in the 15 to 29 age group. The risk factors differ as a function of age. Young children's homicide victimization reflects parental crises and mental health problems, while adolescents and young adults are placed at risk by gang and organized crime involvement, by drug and alcohol use, and firearm availability (UNODC, 2019).

To our knowledge, there have been no prior studies of Finnish or even Nordic youth homicide victimization in which it would have been possible to disaggregate incidents over a long period of time. Since the offender and victim populations are probably more similar to one another than to the general population, examining the offender studies made in our research site is warranted. Thus, Lehti (2007) examined homicide committed by youths from 1980 to 2000 and found a preponderance of economic-purposive crimes in addition to the typical risk factors of social disadvantage and problems in family environment. Hagelstam and Häkkänen (2006) noted that while many of the adolescent (<20 years old) offenders had psychological, cognitive, family, and educational problems, a significant number of offenders did not manifest such problems. For instance, around half of the youth offenders did not have prior criminal records (58%), parental alcoholism (46%) and had not been in contact with mental health services (46%, Hagelstam & Häkkänen, 2006). Similar to the study by Lehti (2007), Hagelstam and Häkkänen (2006) observed a relatively high frequency of robbery-related homicides (25%), in comparison to the general population.

The overall pattern as revealed by prior studies points to the relevance of prior crime, drugs and alcohol abuse as risk factors in youth homicide victimization. Studies of patterns such as our own are typically very hesitant to offer theoretical interpretations because disaggregating the homicides to differential sub-types does not yield causal evidence. Despite this, it seems that lifestyle approaches, strain theories, social disorganization theories, and developmental perspectives highlighting personal challenges have been topical in research.

Current Study

The focus in this article is on patterns of youth homicide victimization in Finland, in comparison to adult victimization. Specifically, we examined key victim and incident characteristics of lethal violence among victims between 15 and 29 years of age in order to, firstly, form a comprehensive overview of recent youth homicide victimization patterns in Finland, and, secondly, see whether the patterns of youth victimization deviate from homicide against older victims. We investigated the sociodemographic and behavioral characteristics of the victim, such as substance use and criminal background, factors related to the relationship between the perpetrator and the victim, and incident characteristics related to the lethal event.

In addition to bivariate analysis through which we compared the attributes of youth and adult victimization, our study creates a data-driven classification of Finnish homicide victimization to examine several subtypes of lethal violence victimization of young and adult victims. We have added to research by studying youth homicide victimization in a European context and within Europe, in a Nordic high welfare state regime. Globally, this context features very low homicide rates. We also add to existing research by offering a nuanced disaggregation of youth homicide victimization, capturing the event foreground. While robust longitudinal risk factor studies often include only at-risk male subjects, we included female victims, who comprised 33% of the 15–29-year-old homicide victims in our study site.

Data

The data used in the analysis were drawn from the Finnish Homicide Monitor (FHM). The FHM is a homicide monitoring system maintained by the Institute of Criminology and Legal Policy at the University of Helsinki, in collaboration with the National Police Board of Finland. The definition of homicide used by the FHM refers to intentional interpersonal violence resulting in death, thus including cases in which the violence was intentional but the result of death was not (Granath et al., 2011). In terms of Finnish legal rubrics, the system covers murder, manslaughter, manslaughter under mitigating circumstances, infanticide, and assault leading to death. The FHM is based on information filled in by the chief investigating officer of each homicide case investigated by the Finnish police and it consists of a wide variety of information describing the incident and people involved in it (Kivivuori & Lehti, 2012). The resulting data have exceptional coverage for our study period between 2002 and 2018 as all instances of police-recorded intentional lethal violence in Finland from that time frame are included. Due to the high clearance rate in Finland (e.g., Lehti et al., 2019), it is justified to assume that our data also captures well those variables which require knowledge regarding the offender, such as victim-offender relationship and prior violence between the parties. Previous studies have used FHM to examine intimate partner homicide (Kivivuori & Lehti, 2012; Suonpää & Savolainen, 2019), homicide clearance (Liem et al., 2019), and homicide drop (Lehti, 2014; Suonpää et al., 2022), for instance.

We excluded child victims younger than 15 years of age from our analysis due to the largely specific (intrafamilial) nature of these homicides in addition to our special interest in comparing young, non-child victims to adults. The upper limit of 29 years follows the United Nations Global Homicide Study demarcation aiming at international comparability (UNODC, 2019, p. 7). We thus use the concepts of “youth” and “young” as shorthand expressions covering adolescents and young adults belonging to this age bracket.¹

The FHM contains on average 97.7 homicide victims of 15 years of age or older per year between 2002 and 2018, the total number of victims being 1,678. As for victims aged 15 to 29, the average annual number is 18.5 and the total number 314. For the analyses, cases with missing information in the used variables (described below) were excluded from the analysis data. This led to a dataset of 1,633 homicide victims, of whom 306 were aged 15 to 29 and 1,327 were over 30 years of age. As for the offense titles during police investigation, 52.9% of the young victims were victims of murder, 38.9% were victims of manslaughter, and 8.2% were victims of other lethal violence; the corresponding percentages for the adult victims were 55.7%, 29.8%, and 14.5%. While the proportion of incidents investigated under the label of murder did not significantly differ between the age groups, cases involving young victims were more likely to have been investigated as manslaughter and less likely to have been labelled as some other title generally indicating less severe violence.

Variables

We used 15 variables in our main analysis (see Table 1 for an overview). As for *victim characteristics*, gender (male/female) and birth country of the victim (Finland/abroad) were used as basic sociodemographic measures. In terms of the criminal background of the victim, a variable indicating that the victim had been involved in a criminal lifestyle was constructed based on information in the FHM on whether the victim could be described as a habitual criminal or a member of an organized criminal group. Several variables related to the substance use of the victim were used in the analysis: an indicator of whether the victim had an alcohol dependence problem (based on the information provided by the investigating officer concerning the question of whether the victim could be described as an “alcoholic”); whether the victim was using drugs habitually (based on the question of whether the victim could be described as a “drug user”); whether the victim was under the influence of alcohol during the incident (yes/no or not known); whether the victim was under the influence of drugs during the incident (yes/no or not known).

Regarding the *victim-offender relationship*, the cases were classified into three categories: family members (including any type of intimate partner), acquaintances, or strangers. In the main analysis, taking the latent class approach (see below), a two-class classification of the relationship was used to indicate whether the victim and perpetrator were members of the same family. In addition, a variable was included indicating whether there had been violence or violent threats to the perpetrator by the victim prior to the incident.

As for the *incident characteristics*, we constructed two variables signifying whether one or multiple victims or perpetrators had been involved in the incident. In addition, information on whether the incident was planned/premeditated was used. In terms of the method of lethal violence, information was provided with the following categories indicating the main modus operandi: no instrument, violence with a sharp instrument, blunt instrument, firearm, or other. In the main analysis, a dichotomous variable was used indicating whether the method of killing was by firearm. In addition to these, a variable indicating whether the homicide was committed in co-occurrence with other personal offenses (robbery, rape, burglary, theft) was used.

Analytical strategy

In addition to bivariate crosstabulations and χ^2 -tests, the main analytical method used in this study was latent class analysis (LCA) which is a mixture model method that allows underlying patterns in the data to be identified according to a set of observed variables (Collins & Lanza, 2010; Masyn, 2013). Specifically, LCA is generally used to describe observed data by identifying unobserved, *latent* classes determined by selected indicator variables. Technically, the LCA procedure is two-fold: first, the model selection across models with different numbers of classes is performed, and second, characteristics of the selected model are inspected by assigning each observation in the data to its most likely class.

In the case of the current study, 15 indicator variables describing the victim, victim-offender relationship, and the incident characteristics were used to identify the latent classes. To reduce model complexity and to prevent multicollinearity issues, only one category of the relationship type and one category of the modus operandi variables were included in the model, indicating substantively and contextually the most distinguishable category (family members; firearm). The model selection was performed on the full sample (both young and adult victimization) and was based on Bayesian information criteria (BIC), other fit indices, and general interpretability of the suggested classes. After the model selection, each victim in the dataset was assigned to the class suggested by the model as being the most likely. This allowed for comparison between young and adult victimization across the classes, which was performed using crosstabulations and χ^2 -tests.

Results

Bivariate results

Table 1 shows the bivariate comparisons between young and adult victimization. Overall, homicide among victims aged 15 to 29 differs from adult (over 30) victimization in multiple ways.

In terms of victim characteristics, young victims were significantly more likely to have been born abroad, to have been using drugs habitually, to have been involved in a criminal lifestyle, and to have been under the influence of drugs during the incident compared to adult victims. The adult victims, on the other hand, were significantly more likely to have had alcohol problems and to have been under the influence of alcohol during the incident.

In terms of the relationship between the victim and perpetrator, violence or threats towards the perpetrator by the victim prior to the killing were significantly more prevalent among young victims. In addition, young victims were significantly more likely to have been killed by a stranger and less likely to have been killed by someone with whom they had a close relationship, in comparison to their adult counterparts.

Table 1. Homicide victims 2002–2018; young (aged 15 to 29) and adult (over 30) victims compared.

		15–29; N = 306	Over 30; N = 1, 327	Sig. (χ^2 -test)
Victim characteristics	Female	33.0	29.5	
	Born abroad	8.5	4.7	*
	Alcohol dependency problem	26.1	58.3	***
	Habitual drug use	38.6	12.1	***
	Criminal involvement (habitual criminal or member of an organized criminal group)	22.5	11.5	***
	Under the influence of alcohol during the incident	63.7	71.9	**
	Under the influence of drugs during the incident	26.8	14.4	***
Victim-offender relationship	Prior violence or threats towards the offender by the victim	33.3	23.2	***
	Relationship			
	Family members	26.8	35.3	**
	Acquaintances	55.2	51.8	
	Strangers	18.0	13.0	*
Incident characteristics	Multiple offenders	16.7	14.9	
	Multiple victims	13.4	7.4	**
	Premeditation	32.4	21.5	***
	Public place	45.8	26.5	***
	Modus operandi			
	Violence without an instrument	13.1	25.1	***
	Sharp instrument	44.8	42.0	
	Blunt instrument	5.9	8.7	
	Firearm	23.2	14.8	***
	Other	13.1	9.3	
Co-occurrence of other personal offenses	13.4	14.5		

***p<0.001, **p<0.01, *p<0.05

As for incident characteristics, young victims were significantly more likely to have been involved in incidents with multiple victims of lethal violence, incidents that were premeditated by the perpetrator, and incidents that happened in a public place. As for the method of lethal violence, young victims were significantly less likely to have been killed without an instrument and more likely to have been killed using a firearm than victims aged over 30.

Latent Class Analysis

The LCA model selection was performed for models from 1 to 9 classes. All the models were based on the 15 indicator variables describing the victim, victim-offender relationship, and the lethal incident. The fit indices for these models are shown in Appendix (Table A1). As the BIC favored the six-class solution, other fit indices also signified a good fit for that model, and a closer examination into the model revealed identifiable and distinct classes that were easily interpretable, this model was ultimately selected after careful inspection of the other solutions.

Table 2 presents the item response probabilities for the indicator variables in the six latent classes, and comparisons of the prevalence of each class between young vs. adult victims. The statistical significance of the difference between the age groups was tested using the χ^2 -test. The class names were based on their most prominent characteristics to facilitate interpretation. The following classes were found (presented in the order corresponding to the prevalence among the young victims):

1. *Victims involved in drug use*; the largest class of youth victimization (29.7%) but significantly less prevalent (9.7%) among adult victims. All victims in this class are described as habitually using drugs, and the prevalence of the victim having been under the influence of drugs during the incident is also high in comparison to the other classes. In addition, the proportion of victims involved in a criminal lifestyle is relatively high.
2. *Victims of public place violence in situational alcohol use contexts*; the second largest class of youth victimization (24.5%) but significantly less prevalent (15.1%) among adult victims. While the class is predominately characterized by the low proportions of victims described as habitually using drugs or people with alcohol dependence issues, it is noteworthy that the proportion of victims reported as having been under the influence of alcohol during the incident is still relatively high. In addition, the proportion of incidents that had occurred in public places is relatively high.
3. *Victims of family violence; non-substance use related*; the second largest class of adult victimization (18.4%) and the third largest class (15.7%) among young victims – the only class in which the difference in the prevalence across the age groups was not statistically significant. The class consists predominately of female victims and cases in which the victim and the perpetrator were in a domestic/close relationship. The class is also characterized by the low proportions of any substance use involvement as well as by the lack of involvement in a criminal lifestyle by the victim.
4. *Victims with alcohol dependence problems; non-family violence*; the largest class of adult victimization (37.8%) but significantly less prevalent (11.8%) among young victims. The class is characterized by the high proportions of victims with alcohol dependence problems and victims under the influence of alcohol at the time of the homicide. The class also has the lowest proportion of female victims as well as firearm as modus operandi.
5. *Victims of premeditated firearm killings in public places; incidents with multiple victims*; this is the least prevalent class in the full sample, but it is significantly more common among young (9.2%) than adult victims (3.0%). The class is characterized by cases that

were premeditated by the perpetrator, involved multiple victims, and happened in public places. In addition, the proportion of cases in which a firearm was used is relatively high. The victims in this class are likely to not have been involved in any substance use or been under the influence of alcohol or drugs during the act of homicide.

6. *Victims of family violence; alcohol use related*; this class contains 15.9% of the adult victims and is significantly less prevalent (9.2%) among young victims. Distinctive to this class is that all cases occur in close relationships and involve victims who were drunk during the incident. In addition, the proportion of victims with alcohol dependence issues is high.

Sensitivity analysis

We ran several sensitivity analyses to assess the robustness of our LCA results. First, we examined whether sub-setting the data and running LCA separately for adult and young victims would suggest interpretively similar findings to our main results. Overall, the results of this sensitivity analysis lend support for the most relevant aspects of the main results. Importantly, interpretively similar classes were identified in the sensitivity analysis and the main analysis of the full sample, despite slight differences in the item response probabilities and population proportions which were expected due to the sensitivity of the method to the composition and size of the data. The analysis of young victims exclusively suggested the best fit for a four-class solution in which the classes corresponded to the classes one, two, three, and five of the full-sample model – in other words, the two classes with the highest proportions of alcohol dependence problems (non-family and family violence related) were not distinguishable when the young victims were analyzed separately. On the other hand, the analysis of adult victims exclusively suggested a five-class solution in which the classes corresponded to the classes one, three, four, five, and six of the full-sample model – the class two referring to public place violence in situational alcohol use contexts was thus not identified when adult victims were analyzed separately. As a whole, all classes suggested by the main results were found in either or both analyses performed on the subsets, which provides support for the robustness of these classes.

Second, due to the interpretively complex nature of the fifth class emerging from the main analysis, we ran additional analyses to assess the composition of the class and its role in the main results further. In particular, firearm violence occurring in public places could be linked to gang and inter-group violence in current policy discussions, but the class identified in our analysis might also be linked to school-related mass violence incidents (e.g., Oksanen et al., 2013) instead of gang violence. Therefore, we inspected the role of school shootings in our results, as school shootings were easily identifiable in the data. Two multi-victim school shootings occurred in Finland during the study period, in 2007 and 2008. Distinguishing cases in which the elements of school shooting were present – the incident happened at school, involved multiple victims, and the modus operandi was a firearm – led to the identification of 17 victims in our sample, all of whom were killed in the two known school shooting incidents, based on further inspection of the primary data. Out of the 17 victims, 14 were under 30 and three were 30+ years of age. Inspecting the relationship between this group and the victim classification provided by the main results showed that all the school shooting victims were classified into the class five: this suggests that 25% of all victims and 50% of young victims in this class were victims of the two school shooting incidents. In other words, cases of school mass violence involving firearms constitute a significant proportion of the fifth class. Further analysis suggested that despite the distinguishable role of the two mass violence cases in the fifth class, excluding the 17 victims

Table 2. The six-class LCA model; item response probabilities and population shares among young and adult victims.

	Class 1 Victims involved in drug use; N = 220.	Class 2 Victims of public place violence in situational alcohol use contexts; N = 276.	Class 3 Victims of family violence; non-substance use related; N = 292.	Class 4 Victims with alcohol dependence problems; non-family violence; N = 538.	Class 5 Victims of premeditated firearm killings in public places; incidents with multiple victims; N = 68.	Class 6 Victims of family violence; alcohol use related; N = 239.
Victim characteristics						
Female	0.12	0.09	0.81	0.06	0.45	0.62
Born abroad	0.02	0.08	0.11	0.02	0.11	0.02
Alcohol dependency problem	0.61	0.00	0.05	0.91	0.00	0.79
Habitual drug use	1.00	0.01	0.02	0.05	0.02	0.12
Criminal involvement	0.65	0.07	0.00	0.11	0.00	0.02
Under the influence of alcohol during the incident	0.73	0.61	0.14	0.97	0.14	1.00
Under the influence of drugs during the incident	0.68	0.03	0.04	0.11	0.00	0.20
Victim-offender relationship						
Prior violence or threats towards the offender by the victim	0.46	0.26	0.09	0.23	0.03	0.39
Family violence	0.14	0.04	0.89	0.03	0.04	1.00
Incident characteristics						
Multiple offenders	0.31	0.19	0.02	0.22	0.00	0.02
Multiple victims	0.04	0.02	0.13	0.05	0.83	0.01
Premeditation	0.23	0.23	0.45	0.13	0.81	0.06
Public place	0.34	0.67	0.21	0.20	0.89	0.08
Modus operandi: Firearm	0.21	0.17	0.26	0.05	0.69	0.11
Co-occurrence of other personal offenses	0.17	0.20	0.15	0.17	0.00	0.03
Estimated share among victims over 30	9.7 %	15.1 %	18.4 %	37.8 %	3.0 %	15.9 %
Estimated share among victims aged 15 to 29	29.7 %	24.5 %	15.7 %	11.8 %	9.2 %	9.2 %
Sig. of the difference between the age groups (χ^2 -test)	***	***	***	***	***	**

***p<0.001, **p<0.01, *p<0.05; Highest probabilities / percentages across the classes highlighted in bold.

and rerunning the LCA procedure would still suggest a six-class solution largely similar to the main results including also a class similar to the fifth class of the full-sample model. However, all the item response probabilities of the most distinguishable characteristics of that class (multiple victims, premeditation, public place, firearms) were notably lower after excluding the school shootings. In conclusion, the role of school shootings is central to the fifth class but not critical to the overall findings.

Discussion

Finnish homicide has long been linked to drinking group violence among marginalized males, a subtype explaining “above-Nordic” homicide rates (Savolainen et al., 2008). However, this picture may not be eternally valid, or valid in all age categories. In this article, we examined youth homicide victimization by comparing it with adult homicide victimization. The primary motivation for the study was the high social cost of lethal violence against young persons (Miller et al., 2001). In addition, we drew inspiration from prior studies considering Finland as a “puzzle” combining a high welfare state with high homicide rates (Savolainen et al., 2008). By and large, the adult victimization profile still corresponded to the traditional alcohol related patterns. In contrast, the youth victimization patterns seemed different in multiple key aspects.

Main findings

We used 15 variables capturing characteristics of victims, victim-offender relationships, and incident features. Compared to adults, young victims were more often born abroad, habitually using drugs, under the influence of drugs at the incident foreground, and connected to criminal networks. As regards victim-offender relationship, the young victims had more often threatened or used violence against the offender prior to the act. This is consistent with the linkage of youth victimization to criminal milieux in which projection of violence capital is a form of self-protection. Partner and family relationships related killings were less frequent among youths. Homicides against youths involved premeditation, multiple victims, and firearm use more often. The incidents were also more likely to happen in public places.

We used latent class analysis to explore whether specific classes of homicide types emerged from the data. In this analysis, six homicide victimization types were specified. Three of these were *more prevalent among young victims*: (1) victims involved in drugs use and criminal milieux, (2) victims of public place violence during situational alcohol use, and (3) victims of pre-meditated multi-victim firearm killings in public places. These classes appear consistent with the bivariate comparisons shown in Table 1.

Generally, young victims of homicide are more connected to drug use and, possibly via the drug link, with criminal milieux and networks. The relatively high prevalence of drugs in Finnish youth homicide points towards similar trends in Sweden, where recent research indicates that the prevalence of drugs in homicide peaks in the age category of 15 to 29 (Granath, 2022, pp. 11–12). In U.S.-based research, the role of alcohol and drug abuse has been noted as means of operationalizing low self-control (Piquero et al., 2005), while they can also be treated as indexing routine activities and lifestyle theory (Ezell & Tanner-Smith, 2009). Prior crime and criminal milieu experience have been linked to homicide victimization risk (Piquero et al., 2005; Ezell & Tanner-Smith, 2009; Farrington & Loeber, 2011b).

Connection to criminally active persons and networks has emerged as a robust predictor of nonfatal and fatal victimization in U.S.-based studies (Papachristos et al., 2012; Papachristos et al., 2015). The current findings are by and large consistent with this,

rendering Finnish youth homicide victimization closer to international patterns than the stereotypical 'alcohol abusing middle aged males quarreling' paradigm. Similarly, in international research, homicide victimization among adolescents and young adults has been connected to gang presence, organized crime activities, firearm availability, and alcohol and drug use by the youth (UNODC, 2019, p. 47). Our findings on the high relevance of criminal milieu contact among young victims suggests that similar processes can be at play in a societal context like Finland: more than one fifth (23%) of young victims were involved in a criminal milieu, and the prevalence was almost double that of adult victims (12%).

However, it needs to be pointed out that our data lack a direct measure of gang activity. One in six young victims (17%) were killed by multiple offenders, but this was not significantly more than the corresponding proportion of adult victims. Moreover, it should be noted that the subgroup of homicide victimization most strongly characterized by the presence of firearms in public places, attributes typically linked to criminal milieux or gang homicides in international literature (e.g., Sanchez et al., 2022), was not associated with the victim's criminal background or drug use. The patterns observed in Finnish youth homicide thus appear to diverge from some international trends in criminal milieu homicides. Further research, encompassing also offender characteristics, is necessary to gain a more comprehensive understanding of these findings. Nevertheless, it seems evident that also in Finland, selection into risky lifestyles and contacts with criminal milieux is a salient risk context for youth homicide victimization.

The second type of victimization linked to public place violence during situational alcohol use could be linked to leisure time routine activities of youths. The salience of situational alcohol use without alcohol or drug abuse identification would be consistent with this. The pattern as such resembles the so-called honor contests in public places, possibly linked to prior recriminations triggered into lethal conflicts by situational alcohol use. In a prior mixed methods study of Finnish homicide dating back to the 1990s, a specific homicide type linked to honor contests in bars and streets was observed, often involving young males defending their honor in the face of verbal altercations and sometimes with prior grudges (Kivivuori, 1999).

The third youth homicide victimization type, public place firearm shootings, could reflect several social phenomena. First, it could be linked to inter-group conflicts. Second, it resembles the school shooting phenomenon occurring in Finland twice during the study period, in 2007 and 2008. The possible salience of female victims might testify to a relatively random victim selection by school shooters. To examine this, we conducted a sensitivity analysis by replicating our findings without the victims of the two major school shootings. This analysis suggested that school shootings constitute a significant component in the public place firearm pattern of youth homicide victimization. However, this class also emerged when the school shooting victims were excluded from the analysis, suggesting that the public place firearm violence dimension is broader, calling for more research on possible links to criminal milieux or gang formations on the part of the offenders.

Limitations

This analysis was restricted to variables available in the source, the Finnish Homicide Monitor. Due to the nature of the case descriptions, the system does not provide very good information on the socio-economic variables, apart from the general fact that homicide offenders and victims tend to come from socially disadvantaged origins. Prior U.S. research suggests that structural disadvantage is a relevant risk factor of youth homicide victimization (Strom & MacDonald, 2007). While the Finnish high welfare state context

truncates the variation of disadvantage, future research should address structural factors in a systematic manner, if only to improve the comparison of the patterns with high homicide contexts in countries like the U.S. (Strom & MacDonald, 2007) and South Africa (Swart et al., 2016).

Furthermore, we do not currently have data on potentially relevant individual-level traits of the persons involved. An exception is the description of the parties as persons with problematic alcohol or drug using habits. Furthermore, our findings on the relevance of criminal milieux call for more information on prior victimization among the friends and acquaintances of the victim, in and beyond co-offending groups.

Our data were based on the judgement of the investigating police, not on an independent assessment by health care professionals or on psychometric instruments. It is possible that the judgement of the investigating police may be skewed by having a higher threshold to recognize the substance abuse problems in young people compared to adults. More generally, the concurrent validity of the police judgements calls for assessment with alternative register data.

Reflections on policy implications

The findings of the current study suggest that crime prevention in the field of serious youth violence benefits from considering specific patterns emerging in youth homicide victimization. These include at least the high salience of drug addiction among the victims, the role of drugs in offense foreground, the criminal involvement of the victims, and the relatively high prevalence of crimes committed with firearms in public places.

More research is needed on drug-related homicide against youth. Victimization linked to drug use also involved situational influence of drugs in the incident foreground, suggesting that the drugs-homicide link in youth homicide is linked to the psychopharmacological effects of drugs. An earlier pilot project by the European Monitoring Centre for Drugs and Drug Addiction exploring the potential of the European Homicide Monitor (EHM) framework in the study of drug-related homicide similarly suggested that the Finnish drug link is focused on psychopharmacological effects more than on economic or systemic motives (European Monitoring Centre for Drugs and Drug Addiction, 2019). However, the data instruments used in these studies lack better measures for other dimensions of drug-related homicide, such as the economic motive and the so-called systemic motives linked to regulation of illicit drug markets. Furthermore, the analysis of the pharmacological effects of the drugs requires detailed information about the substances used by the parties and their quantities.

Based on current descriptive findings, we support the suggestion by Kuhns and Maguire (2012) that more research is needed on the interconnections between drug use, drug markets, and violence. In the future, developing youth homicide reviews requires an integration of both drug-related and youth-focused variables (see also European Homicide Monitor, 2018). Furthermore, incorporating additional variables, including social structural and social networks related dimensions, would serve to broaden the analysis toward a comprehensive social autopsy of youth homicide victimization (Timmermans & Prickett, 2023). Prior discussions of the alcohol and marginalization linked violence pattern have suggested that welfare institutions are more successful in integrating young people into work and education while failing among older groups (Savolainen et al., 2008). The current analysis qualifies this picture, as violence against youth seems to be linked to drugs and crime related subcultures. However, more research is needed on the potential of school or formal employment in preventing the development of such subcultures.

The drug link to youth homicide victimization could provide a hook for prevention as signal for elevated violence victimization risk. Thus, youth homicide prevention could be addressed by drugs and health policies aiming to reduce the full spectrum of harms caused by drug use. However, the relevance of criminal milieu and networks can go beyond drug markets. Inasmuch as this is the case, effective criminal justice related measures and policies could help prevent serious violence among youths as well. Thus, international research indicates that violence embedded and concentrated in criminal networks can be prevented by focused deterrence measures combining credible sanction communication with supportive services (Braga et al., 2018; Braga & Kennedy, 2020). Enhanced control of firearms, and/or more effective policing and sanctions in firearm offenses could prevent serious violence against young people. The salient role of pre-meditation suggests that deterrence related factors should not be excluded when they form a part of a more holistic preventive policy package including social, health, and situational measures. In seeking balance and synergy between health and criminal justice interventions, both are needed (Braga, 2022).

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article. The Finnish Homicide Monitor has ethical approval by the University of Helsinki Ethical Review Board in Humanities and Social and Behavioural Sciences (Statement 5/2022).

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Note

1. The limits also conform to the Finnish legislation (15 years as penal law culpability limit and 29 years as limit used in the law on services provision to young persons).

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Appendix

Table A1. LCA model fit indices.

N of classes	G ²	BIC	APP ^a	Estimated class population shares
1	5693.15	24164.31	1	1
2	4037.89	22627.42	0.96	0.7148 0.2852
3	3374.17	22082.08	0.94	0.5586 0.2903 0.151
4	2911.03	21737.30	0.94	0.4403 0.26 0.1619 0.1378
5	2628.21	21572.85	0.93	0.4357 0.1734 0.1341 0.1317 0.1251
6	2474.81	21537.83	0.91	0.3579 0.1828 0.1486 0.1374 0.1296 0.0436
7	2371.14	21552.53	0.88	0.3289 0.1578 0.1343 0.1297 0.1181 0.0784 0.0528
8	2269.89	21569.64	0.86	0.2762 0.1595 0.1355 0.1332 0.1237 0.0969 0.0504 0.0247
9	2182.11	21600.24	0.85	0.2726 0.1572 0.1362 0.1324 0.081 0.08 0.0625 0.0514 0.0268

^aAverage posterior probabilities for the most likely class.