The International Youth Crime Drop – Evidence and Explanations

Dietrich Oberwittler[1] *& Robert Svensson*[2]

[1] Research Group Space, Contexts, and Crime at the Max Planck Institute for the Study of Crime, Security and Law, Freiburg/Germany

[2] Department of Criminology at Malmö University, Sweden

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Abstract

Youth crime and other types of risk behaviors have declined considerably during the last 20 to 30 years in many developed countries. The robust evidence comes from both official crime data and repeated self-report surveys, one of them covering 36 countries in Europe over 20 years. Since 2015, the decline appears to have levelled off, with a reversal of the declining trend for property crimes in some European countries. Disaggregated crime trends show some but no unequivocal signs of polarization, and conflicting signs of social or ethnic inequalities in the crime drop. Recent studies based on repeated cross-sectional surveys from the US and Scandinavia and looking at micro-level proximal influences made progress in finding explanations of the crime drop. These studies found that a decline in unstructured socializing with peers and in alcohol consumption were the two strongest predictors of declining rates of offending over time, supporting routine activity approaches. The role of the internet and social media in the social change of adolescents' life experiences remain unclear and underexplored. Gaps and tasks for future research are discussed in the conclusion.

Bios

Dietrich Oberwittler is Professor of Sociology and the leader of the independent Research Group Space, Contexts, and Crime at the Max Planck Institute for the Study of Crime, Security and Law, Freiburg/Germany. Robert Svensson is Professor at the Department of Criminology at Malmö University, Sweden.

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Introduction

The international crime drop continues to intrigue criminologists. Starting sometime in the early 1990s, the rates of many types of crime, from shoplifting to homicide, declined substantially in many western countries and have remained on lower levels than during previous decades (Tseloni et al. 2010). The most recent development of crime rates, in particular after the exceptional years of the Pandemic, may signal that the long crime drop has been stalling or come to an end. The crime drop took scholars by surprise, and initial research focused on the dramatic decline of US homicide rates (Blumstein and Wallman 2006; Zimring 2006) before broadening to other crime types and the experiences of other countries (Tseloni et al. 2010; Farrell et al. 2011; van Dijk, Tseloni, and Farrell 2012; Tonry 2014a).

More recently, the research interests have been extended to the decline of youth crime (for overviews, see van der Laan et al. 2021a; Svensson and Oberwittler 2021; Ball et al. 2023). It is on this issue of youth crime that research on the crime drop has arguably made its most significant advances in recent years even if criminologists started discussing it already in the early 1990s (Kyvsgaard 1991; Estrada 1999). In their review of the field, Baumer, Vélez, and Rosenfeld (2018) lamented the "fragmented knowledge" and lack of theoretical orientation of the crime trends literature. A multitude of grand hypotheses, often aiming at processes at the societal macro-level and with poor chances of confirmation, dominated the field. Baumer and colleagues proposed to move beyond aggregated time series of crime rates and towards the analysis of micro-level mechanisms that can shed light on the "proximate causal conditions" of criminal behavior. Since then, a small number of studies leveraged long-running national and international youth survey programs that cover delinquent behavior and include explanatory variables relating to relevant theoretical concepts. The availability of survey data over sufficiently long time spans opened a window to the study of social change of adolescence in contemporary societies. In contrast to a narrow focus on crime, this research broadens the perspective to the "activities of everyday life" (Osgood 2023 p. 2) that can help to understand how delinquent behaviors changed across decades as part of more fundamental, historical changes in the adolescents' "life experiences" (Neil and Sampson 2021, p. 1128).

The aim of the present review article is twofold: First, we present findings on the evidence of the youth crime drop based on official (mainly police-recorded) crime

data and self-report data for many countries in North America and Europe. Time series of police-registered youth crime rates are available for a few countries from the 1980s and for others from the 1990s, and many studies on the development of youth crime using these official data or trends of self-report surveys have been published. Virtually all were single-country studies, and due to diverging definitions, varying reporting routines and research interests, the collection and comparison of these national (or sometimes regional) time series of youth crime rates are challenging and produces a patchy and fragmented mosaic. We lack comparative overviews of youth crime trends across countries and across data sources to achieve a more comprehensive picture. Yet, this would be helpful in order to avoid the nation-centric views that dominated some of the early research on the crime drop and to gauge the generalizability of explanations across countries. The evidence presented in the first part of this article is intended to help improve the empirical basis for a fuller picture of international youth crime trends.

Second, we review the current state of international survey-based research on the explanations of the decline in youth crime, focusing on recent studies that consistently highlighted the crucial role of changing routine activities for changes in youth crime. Again, this work tends to be single-nation studies, and a comparative perspective is important to consolidate scientific knowledge. Also, we include non-criminological research on the neighboring field of adolescent risk behaviors in our review. Although scholars from the two disciplines may even use the same data source (e.g. the Monitoring the Future survey) or very similar survey data, the analyses and scholarly debates too often than not tend to be compartmentalized into narrow disciplines, despite a strong tradition in criminological theory to view youth crime as one facet of generalized deviant and risk behaviors (Osgood et al. 1988; Jessor 1992; Hirschi and Gottfredson 1994). As positive but rare exception in the current literature, Grucza et al (2018) and Ball et al. (2023) asked whether the decline of delinquency and substance use by adolescents should be viewed as "unitary trend" of risk behaviors. We believe that criminology can profit from less crime-centric reasoning in this field particularly. If not only youth crime but also non-criminal types of risk behaviors have declined, then hypotheses that specifically address mechanisms of crime control such as the security hypothesis (Farrell et al., 2011; Farrell, Laycock, and Tilley 2015) that regards technical crime prevention measures as key drivers of the youth crime drop can be subjected to more rigorous scrutiny.

This review article (almost) fully relies on published crime statistics and research findings which may account for the still rather patchy picture of the development of youth crime across countries. This is true for North America and Europe where gaps persist, and it is even more true for other world regions for which almost no data are available. We attempt to compensate for these gaps by using data from the Health Behavior of School Children (HBSC) study, an ongoing multi-national survey program that extends to many countries outside North America and west Europe (Inchley et al. 2018). The time period covered collectively by these sources stretches roughly from the 1990s to the 2020s. Early studies mainly from Scandinavian countries using official conviction data suggest that youth crime had already stopped increasing during the 1970s and started declining since the 1980s (Estrada 1999; Bäckman et al. 2014) but we lack sufficient sources from other countries for a systematic view on the pre-1990s period.

In the first half of section I we present concurrent evidence from both official and self-report data that youth crime strongly declined during the last 20 to 30 years in almost all countries for which data exist. Police-recorded youth crime started to decline in a broad period around the turn of the millenium, earlier in the US and later in Germany, Switzerland and England and Wales, and after 2005 the declining trend became more uniform across countries. The magnitude of the crime drop was striking with proportional reductions of 50 to 75 per cent, sometimes within only just a couple of years. In many countries, the decline in property crimes was more pronounced than the decline in violent crimes. Even without detailed knowledge, one can assume that the reporting behavior of victims as well as police recording behavior and other aspects of the criminal justice policies have had an impact on these statistics. Section I also briefly looks at the consequences of the youth crime drop for the age-crime curve which shows a much flattened profile, and for age-period-cohort analyses.

Trends based on self-reported survey data which can be deemed less biased are available for a smaller number of countries. In the US and Sweden which have long-running national youth surveys covering delinquency, self-reported youth crime fell by 35 to 40 percent between the 1990s and 2015. It is possible that the downturn began even earlier but the survey programs did not exist before. During most recent years, the youth crime drop seems to have levelled off, as self-reported property crimes have been rising again since 2015 in five European countries and the decline in violence

seems to have slowed or halted. Whether these recent trends signal an end to the long youth crime drop and a transition to a less predictable development remains unclear.

The second half of section I discusses research into disaggregated crime trends. Overall the results seem rather mixed but some studies from several countries found signs of a polarization between declining prevalence rates and constant or increasing incidence rates, in particular for violent offenses. Other research looked at heterogenous effects by social class; whereas the crime drop reduced class (and race) differences in Chicago, Swedish scholars reported a polarizing trend towards a higher proportion of offenders from low-income families.

In section II we focus on advances in research on the explanations of the youth crime drop. A number of recent studies have used repeated cross-sectional survey data on self-reported offending from the US, Sweden and Finland to identify individual-level factors that can account for declines in offending across survey waves, encompassing relations to parents, school, and peers, deviant attitudes, and routine activities. Compared with previous descriptive analyses of country-level time series, these survey-based studies mark a real progress towards the analysis of micro-level foundations of social change. A very consistent key finding is the strong association between declining trends in unstructured socializing with peers and alcohol consumption and declining rates of offending as well as other forms of risk behaviours. In the US, Sweden and Finland, unstructured socializing and alcohol consumption account for larger share of the temporal variance in offending than all other predictors. Changes in daily routine activities seem a more plausible explanation for the youth crime drop than technical devices preventing property crimes that have been the focus of the 'security hypothesis'. The more distal causes that may contribute to the remarkable decline in unstructured socializing with friends are much less tangible. To what extent the internet and social media use are a cause of changing routine activities of adolescents is the subject of controversial debates.

Section III summarizes the empirical findings and concludes the article with some recommendations about future research that should be more interdisciplinary and expand the use of repeated cross-sectional and panel survey data. Despite progress in research on key dimensions of the youth crime drop, many aspects have rarely been adressed and more rigorous research is needed to advance this research field.

I. The Evidence of the Youth Crime Drop

In this section we present evidence on the development of youth crime based both on official and self-report data from a number of countries. Both data sources give concurrent support to the notion that youth crime strongly declined during the last 20 to 30 years in almost all countries for which data exist.

We start the section with a brief methodological discussion of the available data sources. The question whether youth crime has declined or not can only be answered on the basis of solid empirical data that measures the quantities of criminal behavior reliably over longer time periods. What seems relatively straightforward in the case of homicide is certainly more challenging when dealing with youth crime which is dominated by minor infractions of the law which are known to be grossly underreported to the police. From this perspective, self-report surveys are clearly indispensable and superior to official statistics because they avoid the selection processes connected with the reporting behavior of victims and recording behavior of police. As there is sufficient evidence for long-term changes in reporting and recording behaviors, this bias may also affect trends (Tonry 2014b). Studies in the US have shown that the reporting and recording of violent offenses increased from the 1970s to the 2000s (Baumer and Lauritsen 2010; Weaver, Papachristos, and Zanger-Tishler 2019), and similar conclusions can be drawn from a comparison of survey-based and police-recorded trends of violent offenses in England and Wales up to around 2005 (Flatley 2018). It appears that rising official crime rates have either exaggerated increases or even contradicted decreases in survey-based violent crime trends (but see below for a possible reversal of this bias). Judicial data of court cases or convictions of adolescent offenders are even more selective than police data as they measure crime at a later stage of formal proceedings. Swedish scholars were able to use unique individual-level conviction data of the complete population linked by personal IDs for multi-cohort panel analyses of youth crime (Bäckman et al. 2021; Sivertson, Nilsson, and Bäckman 2021). The validity of their findings rest on relatively time-stable patterns of formal social control in Sweden that may not prevail in many other countries. For example, in Germany the share of juvenile cases entering the criminal justice system that are actually adjudicated

in court (and not diverted on pre-court stages) has dropped from 56 percent in 1988 24 to percent in 2015 (Heinz 2017, p. 90). We therefore did not include judicial statistics in our time series but discuss the Swedish research findings in the section about differential crime trends.

On the positive side, police or judicial data may be more successful in measuring crime committed by persistent and serious adolescent offenders, a small but important group that is most certainly underrepresented in standardized school surveys (Hagan and McCarthy 1998). Considering the large number of offenses committed by high-frequency offenders, changes over time in this segment of adolescent crime would be hard to detect in most self-report studies. However, official statistics often do not exploit the potential of these data for a detailed look at frequent offenders. Also, police statistics are based on the complete samples of offenders of all ages which makes them indispensable for the study of age-crime curves (Steffensmeier et al. 1989, 2025).

Another cardinal drawback of self-report surveys is that long-term national survey programs exist only in very few countries – mainly in the US and Scandinavia – and did not begin early enough to include the assumed turning points from rising or stable to declining youth crime trends which may have occurred before the 1990s when some of the major surveys such as the Monitoring the Future study (Miech et al. 2025) were launched in its current format. Self-report surveys in other countries tend to be restricted in geographic scope and scattered across years. Against this backdrop, an advantage of police-recorded crime statistics is their continuous collection and publication on a yearly basis. If available for long enough periods and if interpreted with caution, these time series can provide a more comprehensive view of long-term trends and turning points compared to survey-based data. We attempted to select only time series which do not suffer from apparent structural breaks caused by changes in legal/administrative definitions and counting rules. All countries differ somehow in the definition of youth crime and the construction of crime statistics. One major distinction is frequency vs. prevalence: In some countries such as the US the youth crime rates are based on the count of arrests of juveniles in a calendar year which may include multiple arrests of the same individual (frequency) whereas other countries such as Germany count individual offenders only once in a calendar year even if they were arrested multiple times (prevalence). The definitions are unclear for the crime statistics of other countries due to insufficient documentation. Yet, provided these definitions and

counting rules are time-stable we cautiously interpret changes over time as trends in recorded youth crime rates. We discuss the important implications of the distinction between prevalence and frequency in a subsequent section of this article.

In sum, both official crime data and survey-based self-report data have distinct conceptual and methodological problems yet play important and complementary roles in providing a comprehensive picture of youth crime trends.

A. Youth crime trends according to police statistics

Despite country differences in various details, the broad picture emerging from several time series of national police statistics is one of strongly declining youth crime during the last two or three decades, with property crimes declining more than violence crimes in some countries. *Figure 1* shows the time series of police-recorded youth crime rates for a few Western nations. All series were indexed to 100 at their respective peak years in order to facilitate comparisons and focus on trends. For example, a value of 60 in figure 1 would represent a proportional decline by 40 percent from the peak value of 100. We found very long time series of police-recorded youth crime starting before 1990 only for three countries resp. regions: US, Germany, and Zurich, Switzerland. In all three countries, recorded youth crime rates increased during earlier years before turning downwards at different time points between 1996 and 2007. In other countries with shorter time series the beginning of declining trends stretched between 1998 and 2007 after which the crime drop seemed to become more uniform across countries. At the end of the 2010s, in all countries displayed in figure 1 except Germany, youth crime rates had dropped by more than half. The same was true for the Netherlands which is not displayed in figure 1 due to a shorter time series. Sweden and Italy (likewise not displayed), in contrast, saw a less pronounced or no decline at all, respectively.[1]

[1] **Netherlands:** rate of youth aged 12- to 17-years suspected of crimes per 100.000, source: van der Laan et al., 2024, data provided by André van der Laan; **Sweden:** rate of youth aged 15- to 17-years suspected of crimes per 100.000, source: National Council for Crime Prevention (https://bra.se); **Italy:** rate of youth ages 14- to 17-years arrested per 100.000, source: Istituto Nazionale di Statistica, 2024 (link provided by Konstanze Jarvers, rates computed by authors).

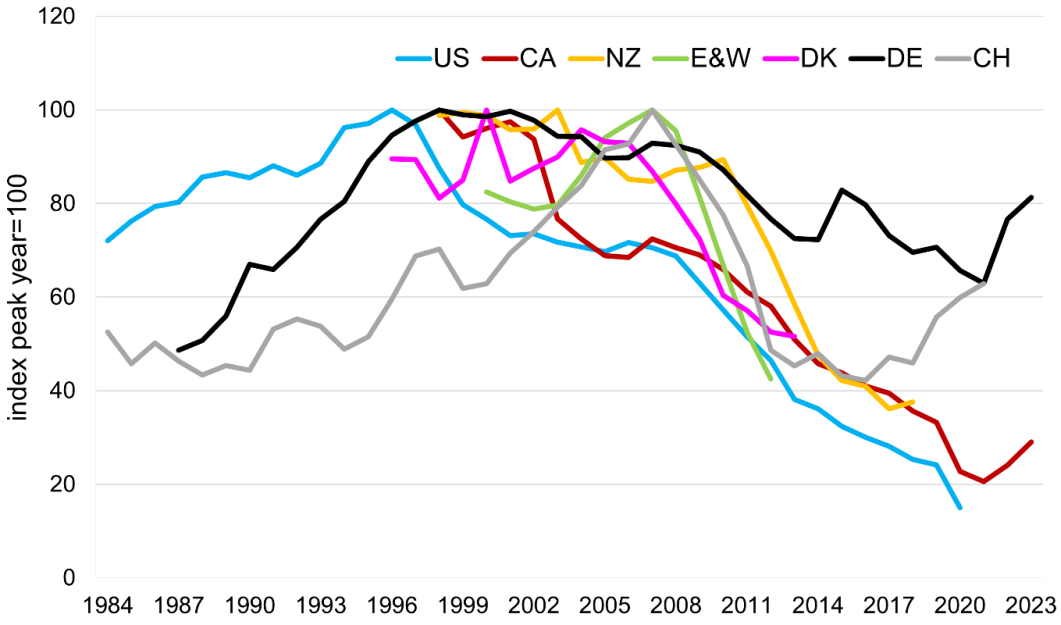

Figure 1: Trends of police-registered youth crime rates in western nations (peak year=100)

CA: Canada; CH: Switzerland; DK: Denmark; E&W: England and Wales; DE: Germany; NZ: New Zealand; US: USA

US: arrest rates of age 10- to 17-years old for all offenses (per 100,000), source: https://ojjdp.ojp.gov/statistical-briefing-book/crime/faqs/ucr_trend (access provided by Charles Puzzanchera, National Center for Juvenile Justice, accessed 28 Oct 2024)); **Canada:** Rate of youth aged 12 to 17 years charged per 100,000, source: Statistics Canada, 2024 (accessed 21 Nov 2024); **New Zealand:** Rate of alleged offenders 14- to1 6-years per 100.000, source: Polglase and Lambie 2024, p. 49; **England and Wales**: Rate of youth 10- to 17-years that committed at least 1 proven offense in the given year -estimate, source: Data provided by Gwyn Griffiths; **Denmark:** Rate of offenses by 15- to 17-years olds (frequency) per 100.000, source: Andersen et al., 2016; **Germany**: rate of crime suspects aged 14- to 17-years (prevalence) per 100.000, source: Bundeskriminalamt, 2023, Tabelle ZR-TV-01-T20-TV-insg (rates computed by authors); **Switzerland (Canton Zurich)**: rate of crime suspects 10- to 17 years per 100.000, source: Polizeiliche Kriminalstatistik für den Kanton Zürich, data provided by Denis Ribeaud.

In many countries, there are signs of a bifurcated trend for property and violent crimes committed by adolescents that has also been observed for overall crime rates (Tonry 2014b): property crime rates dropped more strongly (and earlier) than violence crime rates. *Figure 2* displays the youth crime trends for property and violent crimes separately for Germany, the Netherlands, and Italy. Whereas both crime types declined similarly in the Netherlands, violence crime rates continued to increase for a long time after property crime rates had begun their decline in Germany and Italy (where they never dropped). Similar observations have been made in Spain (Fernández-Molina and Bartolomé Gutiérrez 2020), Scotland (Matthews and Minton 2018), New South Wales

in Australia (Payne, Brown, and Broadhurst 2018), and in Sweden (Estrada 2019, 2022). There are some indications that an increased sensitivity towards violence in Western societies has led to higher shares of adolescents' violent behaviors being reported and recorded and may account for these diverging trends (Köllisch and Oberwittler 2004; Kivivuori 2014; Tonry 2014b; particularly for girls: Steffensmeier et al. 2023).

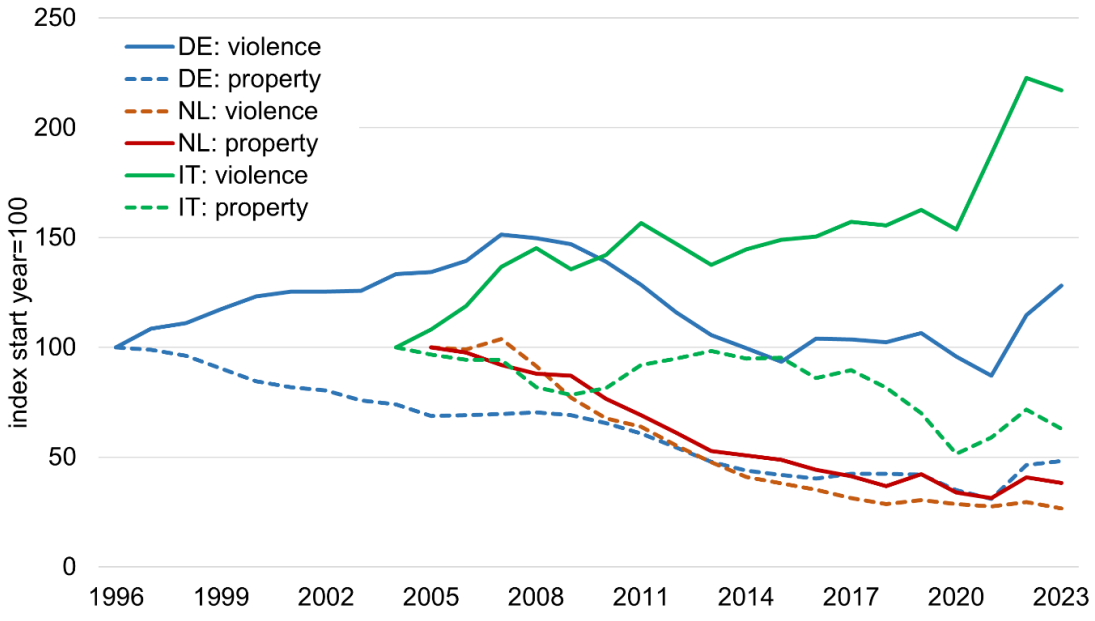

Figure 2: Trends of violent and property youth crime rates (start year=100)

DE: Germany; IT: Italy; NL: Netherlands

Germany: rate of crime suspects aged 14- to 17-years (prevalence) per 100.000, source: Bundeskriminalamt, 2023, Tabelle ZR-TV-01-T20-TV-insg (rates computed by authors); **Netherlands:** rate of youth aged 12- to 17-years suspected of crimes per 100.000, source: van der Laan et al., 2024, data provided by André van der Laan; **Italy:** rate of youth ages 14- to 17-years arrested per 100.000, source: Istituto Nazionale di Statistica, 2024 (link provided by Konstanze Jarvers, rates computed by authors).

The magnitude of the youth crime drop was astonishing in many countries: In the US, youth crime rates plummeted by 75 percent between 1996 and 2019. Rates dropped by 60 percent or more in Canada, New Zealand, and the Netherlands over the course of one to two decades, and dropped by half in England and Wales and Switzerland in only five or six years respectively. In contrast, the decline was rather modest in Germany and Sweden. It is unclear whether different counting rules (i.e. frequency vs. prevalence) may account for some of these differences. Frequency rates might drop

more than prevalence rates if not only fewer adolescents offended but also those who offended did so less often on average (see below).

Time series of official crime statistics likely reflect changes in the processing of youth offending by the agencies of social control. There has been some speculation about possible amplifying effects on the drop in official crime rates by changing criminal justice policies. In England and Wales, new policy targets were issued in 2008 with the aim to keep many juvenile offenders out of the criminal justice system, apparently leading to a more widespread use of "maximum diversion" including avoiding even the recording of an offense (Bateman 2020, p. 30). This would mark a 180-degree U-turn of the punitive trend during the Thatcher and New Labour years (Farrall and Gray 2024). At any rate, a drop of first-time entries of juvenile offenders into the English criminal justice system by almost 90 percent between 2007 and 2019 is very unlikely to be brought about by changes in delinquent behavior alone. We know almost nothing about the recent development of criminal justice policies in other countries that may have affected the recording of juvenile crime by the police during the period of falling crime rates. Police forces with strong discretionary powers such as in England and Wales may have higher leverage to influence crime trends by changing their recording behavior compared to countries such as Sweden and Germany where police forces are bound by the legality principle which requires the recording of crimes and suspects without discretion. In addition, there is emerging evidence that the trend of increasing victims' reporting has been reversed in more recent times, in particular concerning property crimes: Tarling and Morris (2010) using data from the Crime Survey in England and Wales found considerably lower proportions of property crimes (but higher proportions of violent crimes) being reported to the police in 2007/08 compared to 1991, and Xie, Solis, and Chauhan (2024a, 2024b) computed declining trends in victim reporting of both property and violent offenses in the US between 2000 and 2020. Both studies reported that a decline in public confidence in the police rather than more lenient attitudes towards offenders were the most likely motivation of victims to abstain from reporting an offense. If less serious crimes were reported to the police less often in recent years then youth offenders may have particularly profited, biasing recorded crime rates downwards.

Overall, these considerations highlight the potential impact that various aspects of reporting and recording behaviors may have on official youth crime trends. Even if a

clear trend of declining youth crime emerges across several countries, it is fair to assume that the shape of this trend can be considerably modulated by these control practices.

1. Effects of the Youth Crime Drop on the Age-Crime Curve and on Age-Period-Cohort Analyses

The youth crime drop has invigorated research on the age-crime curve and a decades-old debate sparked by Hirschi and Gottfredson's (1983) invariance thesis which maintains that the shape of the age distribution has remained essentially the same throughout history and across social contexts. According to this view, criminal offending spikes very markedly around late adolescence, drops quickly during early adulthood and abates more slowly for the rest of the adult lifespan. The age-crime curve is the subject of a specialized research field which we can only touch on here (see Steffensmeier, Slepicka, and Schwartz 2025). It is striking that the age distribution of registered crime rates looks very different after the youth crime drop: the age-crime curve has become much flatter because rates have declined more sharply among adolescent and young adult compared to older age groups (O'Brien 2023; Steffensmeier et al. 2024; Tuttle 2024). We illustrate this development using data from the Netherlands between 2005 and 2023 (see *Figure 3*). The extreme spike of offending in late adolescence has melted particularly between 2010 and 2015. Figure 3 also reveals that the crime drop extended well into the older age groups beyond 30 years. Adults over the age of 25 contributed considerably to the overall crime drop because a much larger share of the population is between 25 and 60 years old compared to the narrower age bracket of 16 to 25 years.

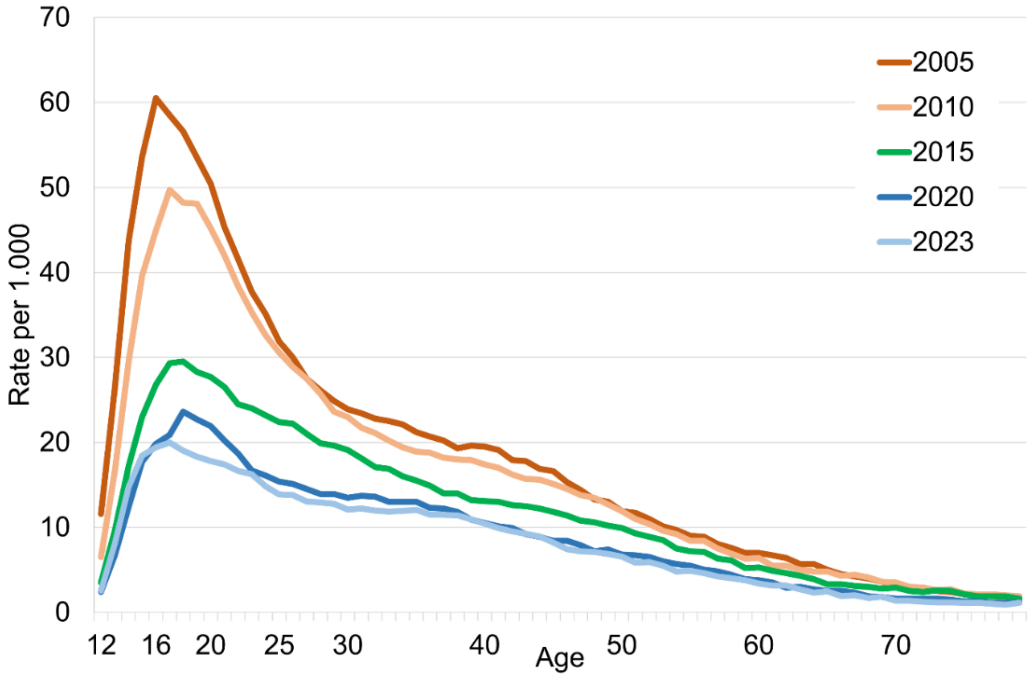

Figure 3: Age-crime curve based on police-recorded crime data, Netherlands 2005–2023

Source: van der Laan et al. 2024, data provided by André van der Laan

Steffensmeier et al. (2024, p. 20) concluded that the current age distribution of registered crime in the US does no longer follow Hirschi and Gottfredson's definition of invariance "when a strict interpretation of 'rapid onset and rapid decline' is applied". However, it is important to consider that most analyses of age-crime curves are based on cross-sectional data so that the curve in a given year reflects the offending rates of many subsequent cohorts of offenders whose life courses commenced in different periods (Neil and Sampson 2021). For example, looking at data from 2023, the cohort of 30-years olds was 15 years old in 2008, and we cannot yet know the offending rate of today's 15-years old adolescents when they will turn 30 in the year 2038 (Tuttle 2024); it might be lower than the rate of people who are 30 today.

Only few studies were able to analyse age-crime curves longitudinally based on individual panel data of different birth cohorts. Using rich Swedish register data of more than 500.000 convicted offenders born between 1960 and 1984 and following them till age 30, Sivertsson, Nilsson, and Bäckman (2021) showed that the age-crime curves of subsequent cohorts of male offenders continued to peak in adolescence and to decline into adulthood, while female offenders in later birth cohorts actually increased initial

crime levels in mid-adolescence (see below). When interpreting these findings, it is important to consider that conviction data are more selective than police arrest (or registration) data. Neil and Sampson (2021) used the longitudinal data of three cohorts from the Project on Human Development in Chicago Neighborhoods study including the official arrest histories of study participants. While the probability of arrest was roughly halved for adolescents born in 1995 compared to adolescents born 15 years earlier even after controlling for differences in sociodemographic composition and early life experiences, the shape of the age-crime curve remained very similar, with the peak age of arrests in late adolescence. Steffensmeier et al. (2024), too, did not find empirical support for the 'emerging adult age-crime thesis' according to which the peak of offending is being postponed from adolescence to early adulthood (Bersani and Doherty 2025). They also looked at disaggregated crime rates and found that the flattening of the age-crime curve was limited to less serious crimes whereas the pattern for homicide and robbery remained more stable (Steffensmeier et al. 2024, p. 17). That the age curves of violent crimes changed less dramatically than of property crimes was also found in Scotland (Matthews and Minton 2018).

Age-period-cohort (APC) analyses take the dynamic perspective on changing age patterns of crime several steps further by attempting to disentangle the relative contributions of period and cohort effects on the crime drop. Period effects are due to forces that exist in a certain historical time – such as the crack cocaine epidemic – and contemporaneously influence the behavior of all cohorts; cohort effects are specific influences that impact particular birth cohorts during their formative years and continue to exert influence throughout their life course (Payne and Piquero 2020, p. 20). Applied to the youth crime drop, studies have come to slightly diverging conclusions. According to Spelman (2022), the crime drop in the US during the 1990s was primarily due to period effects and the subsequent drops after 2000 were accounted for by cohort effects, whereas O'Brien (2019) analysing US homicide arrest data from 1965 to 2015 came to the opposite conclusion that period effects where mainly responsible for the drop in homicide up to 2015 and cohort effects actually "worked in the opposite direction" (O'Brien 2019, p. 211). APC analyses are methodologically challenging due to the identification problem that the three variables age, period, and cohort are exactly collinear and cannot be easily estimated (Bell 2021; O'Brien 2010). Lu and Luo (2021; Lu, Luo, and Santos 2022) recently proposed a new approach resting on age-by-period

interaction terms. Applying this method to US police-registered crime data, they found declining period effects after 1994 for robbery and homicide and declining cohort effects on homicide rates for cohorts born after the 1990s which were more pronounced for White compared to Black populations.

B. Youth crime trends according to self-report data

Almost all surveys on self-reported delinquency are confined to single countries and use either national representative or, more often, regional or city samples. We start this section by collecting and combining trends from several repeated cross-sectional surveys before looking at one of the rare cross-national survey programs using adolescent samples that include questions on violent behavior.

1. National / single-country self-report surveys

Surveys using national representative samples of adolescents offer the best opportunity to assess changes in self-reported delinquency. In the US, the Monitoring the Future (MTF) Study is a program of annual surveys among secondary school students that began in 1976 focussing mainly on substance use but also including questions on criminal offending and relevant behavioral and attitudinal dimensions. Since 1991, eighth- and tenth-grade students have been included in the national representative sample. These repeated cross-sectional data have been used by several scholars for their analyses of the youth crime drop in the US (Keyes et al. 2018; Baumer, Cundiff, and Luo 2021; Borodovsky et al. 2021; Lu 2024, see below). In Sweden, the National Council of Crime Prevention (BRÅ) has conducted self-reported delinquency surveys with ninth-grade students continuously since 1995 in two- to four-year intervals which was the basis of Svensson and Oberwittler's (2021) analysis of the Swedish youth crime drop from 1999 to 2017. Both the MTF and the Swedish survey had constant high response rates of more than 80 percent (the latter at least until 2015). Similar programs of national self-report youth surveys have been conducted in Finland since 1995 (Kaakinen and Näsi 2021; Näsi et al. 2024) and in the Netherlands since 2005 (van der Laan, Beerthuizen, and Boot, 2021). If not on the national level, regional youth surveys comprising several waves exist in Switzerland (Ribeaud and Loher 2022) and

Germany (Dreißigacker et al. 2023) as well as smaller, city-based studies such as the Pittsburgh Youth Study in the US (Berg et al. 2016) that together offer additional evidence on trends in self-reported offending.

We present time series based on these self-report surveys in three plots of total, property and violence crime rates and, using 12-month prevalence rates for all countries. Countries and years were included if self-reported data were publicly available. As with the police-recorded crime data, all time series were indexed to 100 at their respective peak years so that level differences (which may reflect methods-induced and/or substantive variation between countries) are removed and the focus is purely on trends expressed in proportional changes. Like in the previous section, for example a drop from 100 to 60 represents a proportional change by 40 percent.

The trends of overall youth crime displayed in *figure 4* are clearly falling in all four countries from their respective first years of surveying. Thus, the important questions whether self-reported youth crime has risen before and if yes, in which year the turning point occurred, still remain unanswered. The decline started already in 1991 in the US and thus at least five years earlier than police-recorded youth crime. The magnitude and pace of the decline appear similar in the US and Sweden, with drops of the crime rates of around 35 to 40 percent up to 2015. In Pittsburgh (US), the self-reported violence prevalence rate of 17- and 18-years olds dropped by 74 percent between the early and late 1990s, and the respective drop for property offenses was 47 percent (Berg et al., 2016). The trend in Cologne (Germany) between 1999 and 2011 seems to match those in Sweden and the US. The time series in the Netherlands starts only in 2005 and shows a roughly parallel trend until 2015. It is interesting to note that in both Sweden and the Netherlands there are indications of a stabilizing trend after 2015.

The time series of property crimes (which was not available for the US) in *figure 5* show very similar drops until 2015 for Sweden and Finland of around 60 percent in twenty years, and, with a delay, of around 40 percent within ten years in the Netherlands. There are clearer indications of a slight increase of property offenses in all four countries after 2015 including in Lower Saxony (Germany) even though its time series only started in 2013. Since 2015, self-reported property crime has increased in five European countries including in Switzerland (Manzoni et al. 2022, not displayed in *figure 5*). Increases in property crimes between 2015 and 2024 were also reported from

another regional self-report study in North Rhine-Westphalia (Germany) (Kroneberg et al. 2025).

The decline of violent crime in Sweden was even stronger (more than 70 percent) and more sustained than the drop of property crime, whereas it started later in Finland and in Switzerland (after 2001 and 2007, respectively), and was less pronounced in the Netherlands (less than 20 percent) (*figure 6*). The strong drop in self-reported violent crime in Sweden clearly contradicts the official crime trends which hints a continuing 'net widening' tendency in this country (Estrada 2019; Sivertsson, Nilsson, and Bäckman 2021). The decline in self-reported violence appears to have been halted in Finland and Switzerland (Canton Zurich) after 2015 and in Sweden after 2019.

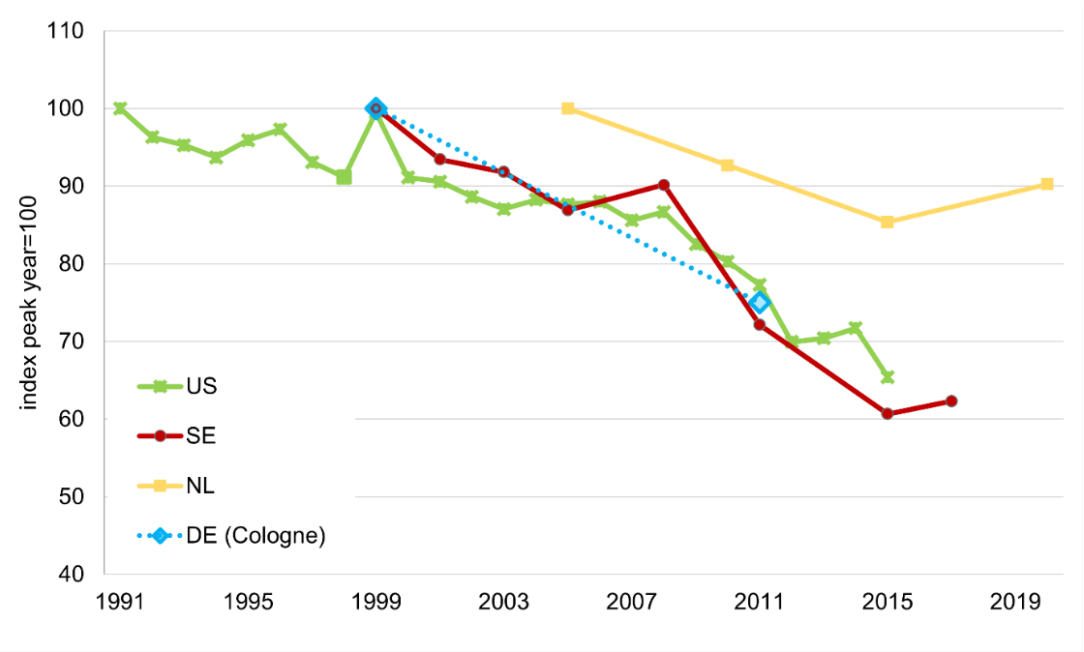

Figure 4: Self-reported youth crime trends (overall prevalence) 1991-2019, peak year = 100

DE: Germany; NL: Netherlands; SE: Sweden; US: USA

US: Prevalence of criminal behavior among 8th and 10th graders, 1991–2015, source: Baumer et al. 2021 (Monitoring the Future data), data provided by Eric Baumer; **Sweden:** Prevalence of criminal offending among ninth-graders, 1999-2017, source: Swedish National Council for Crime Prevention 2024, Svensson and Oberwittler 2021; **Netherlands:** Self-reported offending among 12- to 17-years old adolescents, source: van der Laan, Beerthuizen, and Boot 2021b; **Germany (City of Cologne):** Prevalence of self-reported offending among 8th to 10th graders in the city of Cologne, 1999 and 2011, source: Oberwittler and Gerstner 2021.

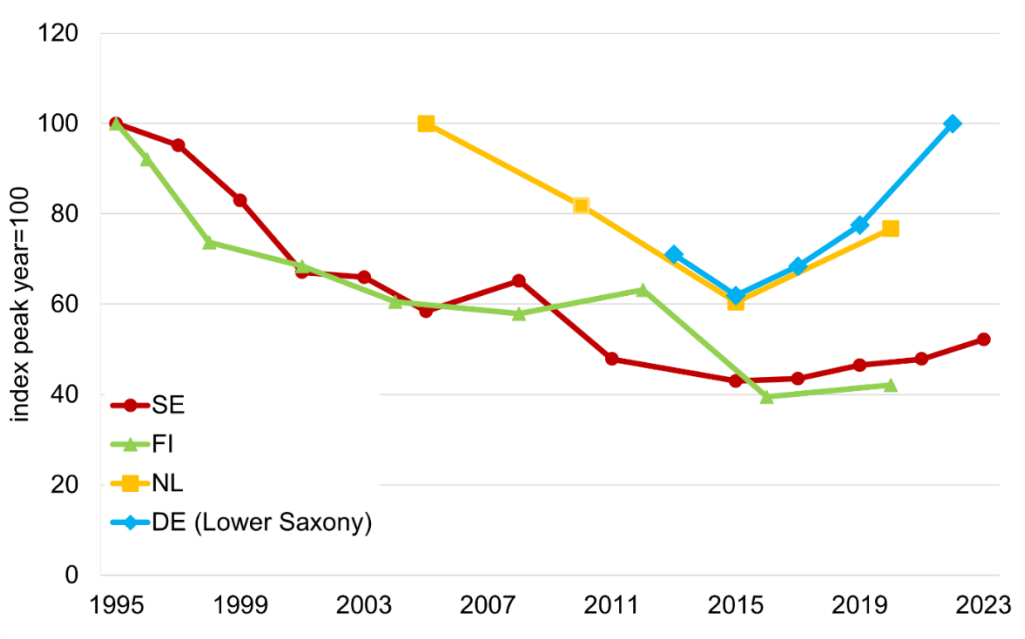

Figure 5: Self-reported youth property crime trends 1995-2023, peak year = 100

CH: Switzerland; DE: Germany; FI: Finland; NL: Netherlands; SE: Sweden

All results refer to 12-month prevalence rates. **Netherlands:** prevalence of self-reported property crime (shoplifting, theft, burglary) among 12- to 17-years old adolescents, source: van der Laan, Beerthuizen, and Boot 2021b; **Sweden:** prevalence of self-reported property crime (shoplifting) among ninth-graders, 1995-2023, source: Swedish National Council for Crime Prevention/Brå 2013, 2024; **Finland:** prevalence of self-reported theft among ninth-grade students, 1995-2020, source: Kaakinen and Näsi 2021; **Germany (Lower Saxony):** prevalence of self-reported property crime (shoplifting, theft, burglary, car theft, vandalism) among ninth-grade students, source: Dreißigacker et al. 2023.

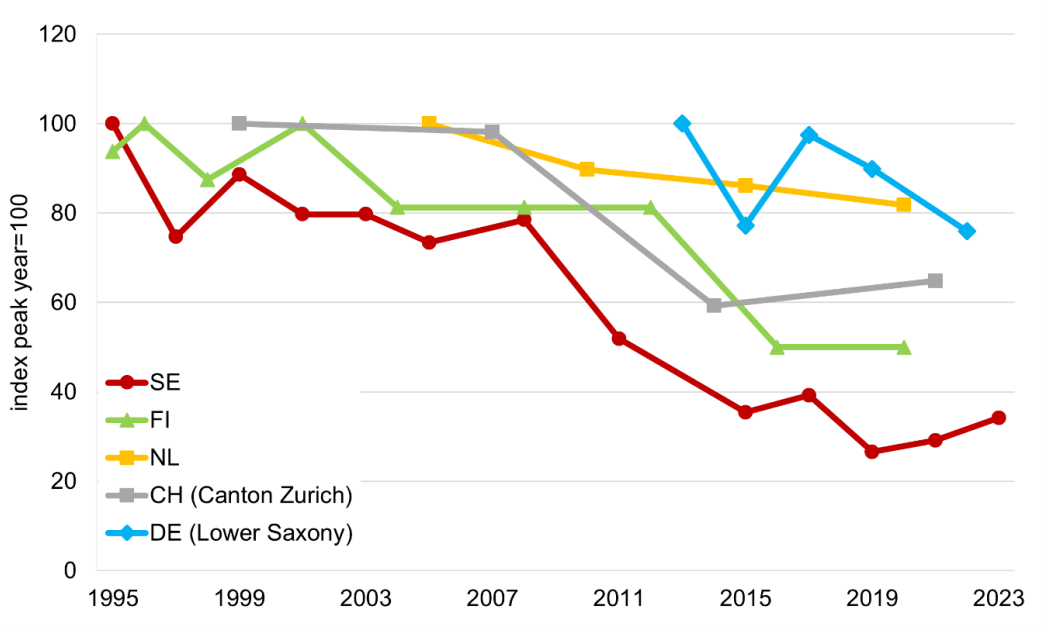

Figure 6: Self-reported youth violence trends 1995-2023, peak year = 100

CH: Switzerland; DE: Germany; FI: Finland; NL: Netherlands; SE: Sweden

All results refer to 12-month prevalence rates. **Netherlands:** prevalence of self-reported violence (assault, threatening) among 12- to 17-years old adolescents, 2005-2020, source: van der Laan, Beerthuizen, and Boot 2021b; **Sweden:** prevalence of self-reported violence (assault) among ninth-graders, 1995-2023, source: Swedish National Council for Crime Prevention 2013, 2024; **Switzerland (Canton Zurich):** prevalence of self-reported violence (assault, robbery, threatening, harassment), 1999-2021, source: Ribeaud and Loher 2022; **Finland:** prevalence of self-reported violence (assault) among ninth-grade students, 1995-2020, source: Kaakinen and Näsi 2021; **Germany (Lower Saxony):** prevalence of self-reported violence (assault, threatening, robbery, sexual violence) among ninth-grade students, source: Dreißigacker et al. 2023.

2. Trends of youth violence in the Health Behavior in School-Aged Children (HBSC) Study

International survey studies can overcome the problems of diverging definitions and data production routines of national statistics. The only cross-national youth study in the field of criminology, the International Self-Report Delinquency Study (ISRD) with four rounds between 1991 and 2022, is less suited for trend analyses due to various changes in the study design (Marshall et al. 2022). However, one of the longer running international surveys with some relevance for the topic of youth crime which has largely escaped the attention of criminologists is the Health Behaviour in School-aged Children (HBSC) study.[2] The HBSC study is a cross-national research endeavour in presently 51 countries in collaboration with the World Health Organization (WHO) Regional Office for Europe. Surveys of national representative samples of school children aged 11, 13, and 15 years have been carried out in four-year intervals since the 1980s. While these data are being extensively used in research fields focussing on health, substance use, and well-being, they are less well-known among criminologists because criminal or delinquent behaviors are touched upon only by a single question on physical violence (and another on bullying). Yet, this study offers a rare opportunity to open a window to self-reported behaviors of children and adolescents across many non-Western countries in Central and Eastern Europe and some neighbouring Asian countries. The following results are based on the question: "During the past 12 months, how many times were you in a physical fight?" with five answer categories from "none" to "4 times and more". In published reports of HBSC surveys and in this analysis, the prevalence rate of violence is computed as the percentage of students who answered that they fought at least three times in the last twelve months. Thus, the prevalence rate is in fact a hybrid between a prevalence and an incidence rate because the threshold for the value 1 is higher than the pure prevalence. We used data from 36 countries which participated in most waves, 30 of which have complete time series over twenty years since 2002. The individual time series for each country are plotted in *figure A1* in the appendix. Looking at a summary of the proportional change of violence rates since 2002 displayed in *figure 7*, the green bars measure the change

[2] See https://hbsc.org/.

between 2002 and 2018, whereas the red bars measure the change between 2002 and 2022. We distinguish between these two different time spans because there are indications (which are visible from the curvilinear fit lines in *figure A1* in the appendix) that the decline in violence may have levelled off during the mid-2010s in some countries. If the green bars are longer than the red bars this signifies a trend of declining prevalence rates that was reversed between 2018 and 2022, if the red bars are longer than the green bars, this signifies a continuous trend of declining prevalence rates beyond 2018 up to 2022, and finally, if both bars are of equal length, the decline stopped after 2018. *Figure 7* can best be read in conjunction with the scatterplot in *figure 8* where the X-axis represents the prevalence rates of violence in 2002, and the Y-axis the percent-point change[3] in these rates between 2002 and 2022, with the country rates displayed separately for boys and girls.

The major finding from *figure 7* is that boys' violence has declined to varying degrees since 2002 in all countries but one (Macedonia), from proportional declines of more than 70 percent in Lithuania to just 10 percent in Spain. The average proportional change across all countries was -27.9 percent in 2018 and -34.4 percent in 2022. Looking at the X-axis in *figure 8*, the range of prevalence rates of boys' violence in 2002 was roughly between 10 and 20 percent. Most countries saw continuing trends of declining boys' violence until 2022, but in a few countries (Norway, Finland, Scotland, Canada, the Flemish part of Belgium, and Austria), rates increased again somewhat between 2018 and 2022.

For girls, the picture looks slightly different as around a third of the countries saw rising prevalence rates between 2002 and 2022, which however is largely due to considerably lower starting rates than boys' that can render small absolute changes into large proportional changes. Most country rates of girls' violence in 2002 ranged between close to 0 and 10 percent (*figure 8*). The scatterplot in *figure 8* reveals an additional very important finding: The drop in violence (measured in percentage-points changes between 2002 and 2022) was much stronger for both boys and girls in countries where the starting rates had been higher; the bivariate correlation between

[3] We report the percent-point difference here because the low starting values of prevalence rates especially of girls would lead to inflated proportional changes (e.g. a decline of the prevalence rate from 4 percent to 2 percent would translate into a proportional change of 50 percent).

level and change was r = -0.86 for boys and -0.77 for girls. That declines were stronger in geographic areas or demographic groups where crime rates had been higher is a familiar finding from previous research (Baumer, Vélez, and Rosenfeld 2018). Because boys' violence dropped more strongly than girls', the gender gap in violence narrowed between 2002 and 2022 in many countries (see *figure A1* in the appendix, and see below).

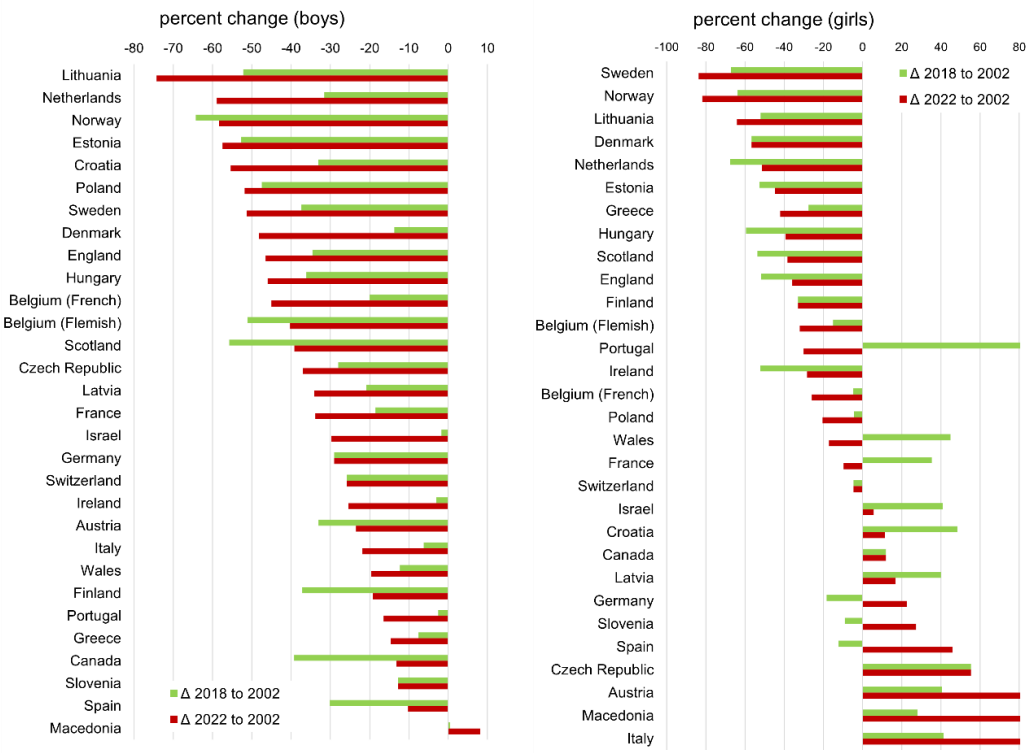

Figure 7: Proportional (per cent) change in prevalence rates of physical violence in 30 countries since 2002 (HBSC study, 15-years old students, by gender)

Source: Health Behaviour in School-Aged Children (HBSC), waves 2002 to 2014: raw datasets provided via https://www.uib.no/en/hbscdata/113290/open-access, (accessed 18 Sept 2024, access provided by Oddrun Samdal); waves 2018 and 2022: tables published on https://data-browser.hbsc.org/, accessed 29 Aug 2024. Survey question "During the past 12 months, how many times were you in a physical fight?", prevalence rate as percent at least three times in the last twelve months. Results based on authors' computations. Increases larger than 80 percent for girls are capped.

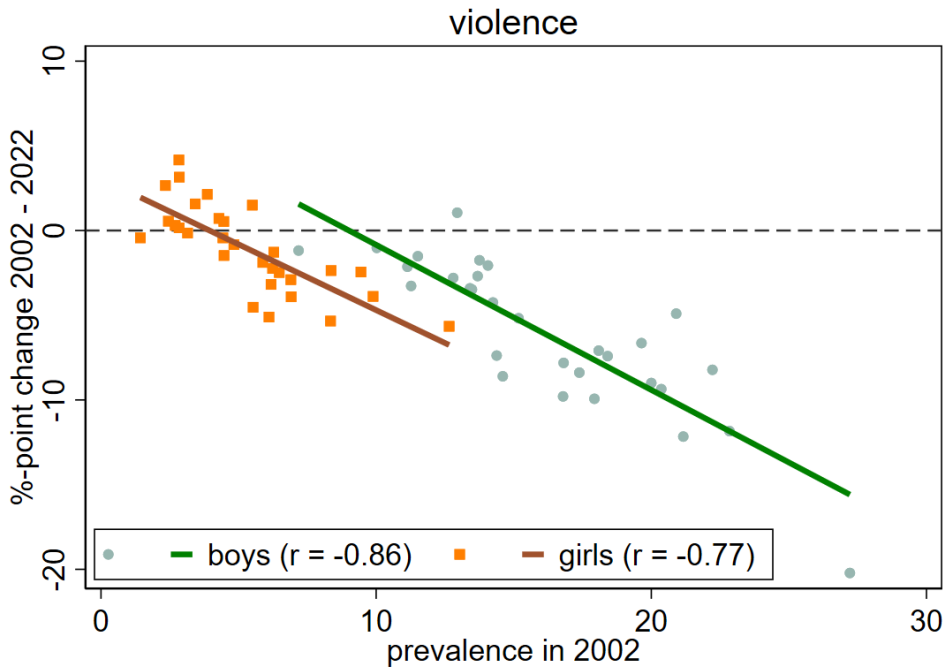

Figure 8: Scatterplot of prevalence rates of physical violence in 30 countries in 2002 and percent -point change between 2002 and 2022 (HBSC study, 15-years old students, by gender)

Source: see figure 7.

A very similar trend between 2002 and 2022 can be observed for bullying. While we do not report detailed findings here, it is interesting to note that cyberbullying (based on a new survey question added in the 2018 round) was considerably more prevalent than traditional bullying, particularly in Scandinavian and Anglo-Saxon countries, and increased between 2018 and 2022 in contrast to the declining trend of conventional bullying. This may signal a displacement of youth aggression from the traditional social world to the cyberspace (Kennedy, Dendy, and Lawrence 2024; McCord, Birch, and Bizo 2022; Miró-Llinares and Aebi 2025).

C. Disaggregated crime trends

So far, we reported the overall trends of total, property, and violent offending among adolescents. In the following sections, we turn our attention to the questions whether

the youth crime drop happened evenly in different subgroups, and whether it was accompanied by a trend towards polarization. A relevant distinction with regard to polarization is that between prevalence and incidence/frequency of offending, and other important aspects concern possible differences between sociodemographic groups, such as gender, ethnicity, or social status.

1. Prevalence vs. incidence/frequency of offending

Was the youth crime drop a result of less adolescents becoming criminal, or of criminal adolescents offending less often, or both? Several studies have endeavored to untangle these aspects, as answers to these questions could give important insights into the potential causes of the youth crime drop (Berg et al. 2016; Payne and Piquero 2020; Sivertsson, Nilsson, and Bäckman 2021). Before looking at the evidence we first define the key terms following the terminology used by Berg et al. (2016) as 'incidence' and 'frequency' has been used differently in the literature: the *prevalence* rate is defined as the proportion of individuals within a population who offend once or several times within a given period (mostly a year), the *incidence* rate is the average number of offenses within a given period committed by active offenders (thus, without counting non-offenders), and finally, the *frequency* rate denotes the number of offenses divided by the total population, or the product of prevalence rate times incidence rate. If the prevalence rate declined but the incidence rate increased then *polarization* would be the consequence: fewer individuals from a population were responsible for the same or a higher volume of crime.

Like in the previous section, we first look at research based on police-recorded crime and conviction data followed by research using self-report data. One advantage of official data for this particular research question is that it includes the most active offenders who disproportionately contribute to the volume of crime and may be less likely to voluntarily participate in survey studies. Yet, findings based on official crime data remain potentially affected by police strategies that may change over time, such as targeting special offender groups in times of overall crime decreases. Thanks to the availability of large-scale individual-level register data, studies from Scandinavian countries seem to dominate this research field. Andersen et al. (2016) used all police registrations of 15- to 17-years old adolescents in Denmark between 1996 and 2013 to decompose prevalence and incidence rates by birth cohorts. They concluded that the

youth crime drop in Denmark was mainly due to declining prevalence rates, while incidence (and lifetime recidivism) rates remained unchanged.

The evidence from Swedish and Finnish cohort studies based on conviction data is somewhat mixed and does not unequivocally support the polarization thesis. Comparing the convictions for violent crimes of Swedish and Finnish individuals born between 1986 and 1998 for the age range of 15 to 20 years (the youngest cohort turned 20 in 2018), Sivertsson et al. (2025; cf. Pitkänen et al., 2022) reported decreasing prevalence rates but stable incidence rates for overall violence in both countries and thus no evidence for polarization, yet indications of an expansion of a smaller group of offenders engaged in more serious forms of violence such as robbery and homicide. In a previous analysis based on the conviction data of older cohorts born between 1960 and 1984 the same research team did not yet find drops in violent crime but only in property crime and concluded that " a stable frequency rate for the male population "conceals a process whereby the size of the offender population has continued to decrease while the mean rate of offending frequency has consistently increased" (Sivertsson, Nilsson, and Bäckman 2021, p. 1012) .

In their analyses of registered offenses among adolescents born in 1984 and 1994 in New South Wales (Australia), Payne and Piquero (2020) found that the cumulative prevalence rates up to age 21 had fallen by almost 50 percent from the older to the younger cohort but the incidence rates had increased from 4.8 to 6.4 offenses among active offenders, and had increased for both property and violence offenses. McCarthy (2021), too, reported diverging trends of decreasing crime by one-time offenders and increasing crime by chronic offenders from 2008 to 2018 in Queensland (Australia).

Turning to self-report data, several surveys have been used to untangle the effects of prevalence and incidence rates on the youth crime drop. Open-ended frequency responses to self-report questions are better suited for these analyses than vague categories such as "more than 5 times" which, however, seem to dominate the national youth survey programs (Baumer et al. 2021; Svensson and Oberwittler, 2021).

Berg et al. (2016) in their analysis of the Pittsburgh Youth Study found significant declines between the early and late 1990s in the prevalence rates as well as incidence rates of both property and violent offenses except for the violence incidence rate of white adolescents. In the Netherlands, van der Laan et al. (2021a) categorized respondents of the national Youth Delinquency Survey into non-delinquents, minor, and serious delinquents based on a combination of the seriousness of offense types and the

frequency of offending (based on categorized frequencies). Between 2005 and 2015, the share of serious delinquents declined more (from 10.9 percent to 6.9 percent, a proportional change of -37 percent) than the share of minor delinquents (from 30.4 percent to 27.7 percent, a proportional change of -9 percent). However, the frequency of offending within the group of serious offenders did not decrease. Using national self-report surveys from Finland, Kaakinen and Näsi (2021) found that while the prevalence rate of violence declined between 1995 and 2020, the offending frequency among the group of the most delinquent adolescents increased (and remained stable for property offenses). In Sweden, Svensson and Ring (2007) did not find signs of a polarization in the trends in self-report survey data between 1995 and 2005 (which, however, were based on categorized frequencies).

To sum up the evidence from police recorded data and self-report data, the results seem rather mixed but studies from the US, Sweden, Finland, and Australia found some indications for a polarization between declining prevalence rates and constant or increasing incidence rates, in particular for violent offenses. (Payne and Piquero 2020, p. 65) interpret this polarization as the effect of an "distributional shift": as the number of one-time offenders decreased more than the number of recidivist offenders and the relative share of the latter group among all offenders increased, so did the incidence rate for all offenders – even if the recidivist offenders did not offend more often. In order for the incidence rate to remain stable, the more chronic offenders would have to reduce the volume of their offenses somewhat. While this appears as a rather technical explanation, the substantive result remains that the youth crime drop may have led to a disproportionate decrease of one-time offenders and may not have extended equally to the more chronic offenders.

2. Gender differences

Another important question is whether the crime drop happened equally among boys and girls and how it affected the gender gap of youth crime. The short answer is that there is broad consensus that crime of both boys and girls declined but because boys' offending declined more (at least for many crime types), the gender gap has partially narrowed.

We use the HBSC survey data for a broader look at changes in the gender gap of violence across many countries. *Figure 9* plots the development of the gender gap in violence between 2002 and 2022 as the average percentage-point differences in

prevalence rates between boys and girls by country regions. The gender gap narrowed in all three country regions to around 6 percentage points in 2022. As *figures* 7 and 8 in the previous section testify, this narrowing of the gender gap was the result of larger drops in violence among boys compared to girls. The reduction of the gap was most pronounced in the former socialist countries where boys' prevalence rates had been on average 15 percentage points higher than girls' rates in 2002, whereas the rate difference started at around 11 percentage points in continental European countries and around 8 percentage points in 2002 in Anglo-Saxon and Scandinavian countries.

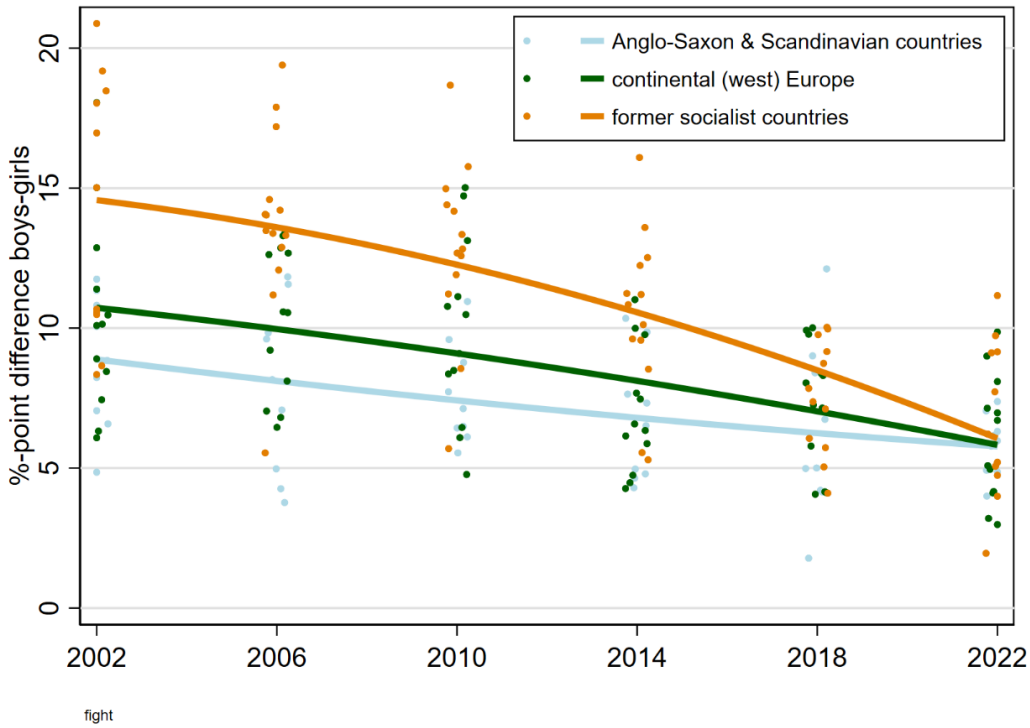

Figure 9: The gender gap in violence by country groups, 2002 to 2022 (percent -point differences between boys and girls) (HBSC study, 15-years old students)

Source: Health Behavior in School-Aged Children, waves 2002 to 2014: raw datasets provided via https://www.uib.no/en/hbscdata/113290/open-access, accessed 09/18/2024 [thanks to Oddrun Samdal]; waves 2018 and 2022: tables published on https://data-browser.hbsc.org/, accessed 08/29/2024. Survey question "During the past 12 months, how many times were you in a physical fight?", prevalence rate as percent at least three times in the last twelve months. Results based on authors' computations.

Looking at official and self-report data on violence from the US, Steffensmeier et al. (2023, p. 9837) concluded that except for official measures of simple assault, the crime

drop was “roughly symmetrical for boys and girls”. Comparing official to self-report data they inferred that girls’ violence may be become “more visible and less tolerated than in the past” (Steffensmeier et al. 2023, p. 9838). Based on the 8th, 10th, and 12th grade samples of the MTF Study and applying age-period-cohort analysis, Keyes et al. (2018) found significantly decreasing cohort and period effects only for boys (even though a moderate decline for girls is visible in the descriptive results) which resulted in a narrowing of the gender gap. Using only the 12th grade sample of the same study, Lu (2024) reported a decline between 1990 and 2019 in the crime prevalence rate for boys (from 66 percent to 40 percent) and for girls (from 46 percent to 34 percent), again resulting in a narrower gender gap. Applying a different statistical approach than Keyes et al. (2018), she found the decline to be significant for both genders.

Swedish conviction register data for birth cohorts from 1960 to 1985 show an actual increase in crime rates of girls for both theft and assault (yet to a much lower level than boys’ rates) Sivertsson et al (2021). This increase of violent and property offending among 15- to 17-years old girls for the youngest birth cohort 1980-84 changed the female age-crime curve considerably by moving the peak towards the youngest age. Particularly for violence, both Estrada et al. (2016) and Sivertsson, Nilsson, and Bäckman (2021) assume that the likelihood of formal sanctioning rather than actual offending behavior has increased for girls, in line with Steffensmeier’s (2023) reasoning. However, the most recent results from the Swedish Youth Survey suggest that also self-reported offending by girls in 9th grade has increased since 2015, at least for property offenses, and has in fact overtaken boys’ shoplifting rate since 2021 (Svensson 2024; Swedish Crime Prevention Council 2024).

3. Differences by Race/Ethnicity and SES

Very few studies have examined possible differences in crime trends by race/ethnicity or migration status. In the US, Berg et al. (2016) disaggregated the sample of the Pittsburgh Youth Study by race and found violent and property crime drops for both white and black adolescents, but the latter group had larger declines in the incidence rate of violence. This is no surprise considering the broad literature on the crime drop in the US which mainly focused on the development of homicide. Homicide rates spiked especially among young blacks and in the disadvantaged areas of large cities during the late 1980s and early 1990s, and they subsequently dropped among the same sociodemographic group and in the same ecological contexts (Blumstein 2006; McCall,

Parker, and MacDonald 2008; Parker 2008; Parker and Gray 2025). While it is doubtful to what extent the development of US homicide rate can be generalized to other types of crime and other countries, it seems plausible to assume that crime decreased more in sociodemographic groups which had higher crime rates before the crime drop, in part just because of higher starting levels. The example of US homicide rates is also relevant for the intersection of race/ethnicity and SES: in most societies, ethnic minorities and people with migration backgrounds also have on average lower SES and often live in disadvantaged areas characterized by the co-occurrence of ethnic and social segregation (Sampson and Wilson 1995; Sampson, Wilson, and Katz 2018). These assumptions about heterogenous effects by social and ethnic groups have been confirmed by Neil and Sampson's (2021) comparative analysis of the arrest trajectories of cohorts born in 1980, 1985, and 1995 from the PHDCN sample with its rich individual and neighborhood data: The crime drop from the oldest to the youngest cohort was more pronounced for adolescents from low-SES families than for their peers from high-SES backgrounds. The former group started from a much higher level of arrest rates than the latter, and the social gradient in arrest rates disappeared during the crime drop, rendering the age-crime-curves of low- and high-SES adolescents "nearly indistinguishable" (Neil and Sampson 2021, p. 1157). Also, the arrest rates dropped most for African-Americans. But even within the group of African-American and Hispanics, SES mattered for the extent of the decline; yet, the effects of race/ethnicity and social inequality were so closely intertwined that a statistical separation of effects was impossible (Neil and Sampson 2021, p. 1158).

A Swedish study based on register data of convictions by Nilsson et al. (2017) also focused on heterogenous crime trends declines by social class. They computed a polarizing trend for the birth cohorts 1965 to 1985 registered for crime up to the age of 25: Criminal convictions of men in the high-income group decreased by 5 percentage points but increased by 9 percentage points in the low-income group. No diverging trend was found for the female population. A subsequent analysis of convictions of Swedish males born between 1975 and 1997 confirmed this result (Nilsson et al. 2025). The authors relate this polarizing trend which contradicts the Neil and Sampson's (2021) findings from Chicago to rising social inequalities in the Swedish society at large. We are lacking more research that would advance the knowledge on polarization in the youth crime drop and the role of social inequalities in it.

Yet, more studies have looked into ethnic differences in crime trends. A study of police-recorded youth crime in New Zeeland found that crime declined similarly between 2010 and 2019 for adolescents of European descent and indigenous groups (Maori and Pasifika) (Polglase and Lambie 2024). A recent study used the Swedish Self-Report Survey from 1999 to 2017 to compare the crime trends of native Swedish to first- and second-generation migrant adolescents (Vasiljevic, Svensson, and Shannon 2020). The results showed significant decreases for all groups (and for both genders), and the strongest decrease (-15.1 percent) for first-generation migrant adolescents compared to a -9.6 percent decrease of native Swedish. An analysis of Swedish conviction statistics showed a similar result (Bäckman et al. 2021). This study was one of very few that investigated the intersection of ethnicity and SES: when controlling for income levels, the effect of ethnicity was considerably reduced.

D. Evidence on trends in other types of risk behaviors

In this section, we focus on other, mainly non-criminal types of risk behaviors which have often been linked to delinquency in the 'generality of deviance' tradition that stresses the role of low self-control and short-term orientations for all types of risk behaviors (Hirschi and Gottfredson 1990, 1994). Whether these risk behaviors have followed similar trends as delinquency and are influenced by similar processes is an important question for the explanation of delinquency. In their wide-ranging review of various types of risk behaviors including crime, Ball et al. (2023, p. 6) claim theoretical and empirical support for "the idea that observed declines in adolescent risk behaviors are linked and have common underlying causes". Most of the long-running youth survey programs such as the MTF and HBSC do not only ask adolescents about criminal offending but also – or even primarily – about other, non-criminal risk behaviors and conduct problems, in particular substance use and health behaviors. Substance use has a hybrid character in the sense that it can be illegal for minors or for everybody but is not regarded as a crime in the same way as fraud or shoplifting, in part because it is victimless. Drinking and smoking may be prohibited for adolescents, but violations often do not carry a sanction as opposed to selling alcohol or nicotine to minors (Svensson and Oberwittler 2021). Thus, it depends on the perspective whether to regard substance use and criminal offending as two facets of a more general phenomenon or as

two separate phenomena, and both perspectives are prevalent in the literature. In criminology, alcohol has been considered as a situational factor and proximal cause of crime (van Gelder and Frankenhuis 2024; Sivertsson et al. 2025). Alcohol intoxication is significantly associated with offending, in particular violent offending (Brown and Leonard 2017; Felson et al. 2008). In an analysis of situational influences, alcohol intoxication increased the likelihood of adolescents' offending (Bernasco et al. 2013). Following this reasoning, both Baumer et al. (2021) and Svensson and Oberwittler (2021) used alcohol intoxication as an explanatory variable relating to the concept of routine activities.

The evidence for a strong long-term decline in adolescent alcohol consumption is overwhelming (Pape, Rossow, and Brunborg, 2018; Vashishtha et al. 2020). The decline has been confirmed in US studies using MTF data (Keyes et al. 2018; Miech et al. 2025) and National Survey on Drug Use and Health (NSDUH) data (Grucza et al. 2018; Goings et al. 2019), as well as in international studies using HBSC data (Inchley et al. 2018; de Looze et al. 2019) and European School Survey Project on Alcohol and Other Drugs (ESPAD) data (Raitasalo et al. 2021; Arnold, Horváth, and Elekes 2024).

We used the HBSC data to gauge the decline in alcohol intoxication of adolescents across many countries. *Figure 10* illustrates the proportional changes in alcohol intoxication across 30 countries. As in the previous figure, the green bars measure the change between 2002 and 2018, whereas the red bars measure the change between 2002 and 2022. Alcohol intoxication is measured as the percentage of adolescents who had been drunk at least twice in their lifetime. As with violence and bullying, almost all countries have seen a strong decline in alcohol intoxication ranging from 20 to 90 percent for boys and somewhat smaller percentages for girls. The decline has been particularly marked in many Scandinavian and Anglo-Saxon countries. *Figure A3* in the appendix documents the separate time series for all countries.

Cigarette smoking, like drinking, has declined markedly in most countries (Ball et al. 2023). The trend for cannabis use, in contrast, has been less consistent in the US (Moss et al. 2019; Miech et al. 2025) and internationally, with fluctuating time series in many European countries (de Looze et al. 2019). Ball et al. (2023) report first increasing and then stable prevalence rates of cannabis use averaged across 30 European countries between 1995 and 2019. Despite the robust evidence that both alcohol and cannabis use are strongly associated with offending in cross-sectional studies with

individual adolescents (Rocca, Verde, and Gatti 2019; Sultan et al. 2023), diverging trends over time raise the intriguing questions why the youth crime drop was accompanied by a decline in alcohol but not cannabis use, and how a causal relationship between macro-level trends in substance use and delinquency can be conceived if trends of alcohol and cannabis use do not align.

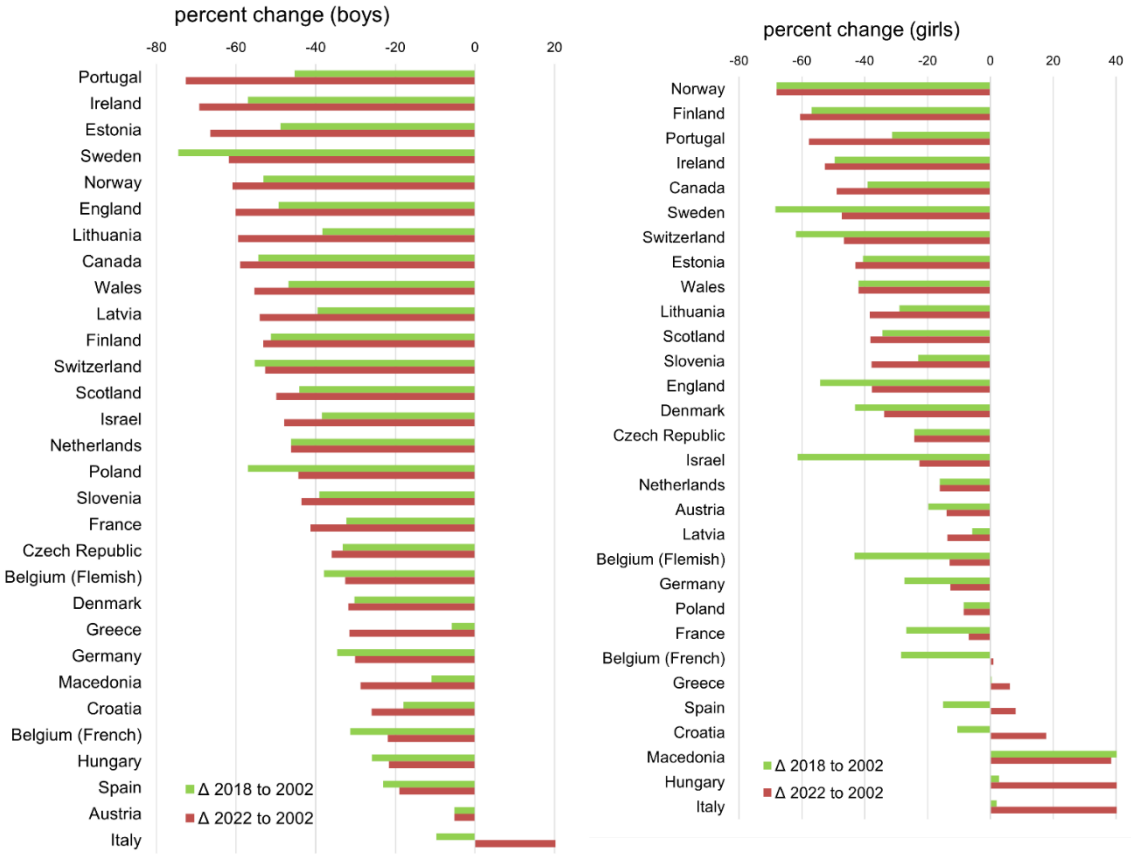

Figure 10: Proportional (per cent) change in prevalence rate of lifetime alcohol intoxication in 30 countries since 2002 (hbsc study, 15-year old students, by gender)

Source: Health Behaviour in School-Aged Children (HBSC), waves 2002 to 2014: raw datasets provided via https://www.uib.no/en/hbscdata/113290/open-access, accessed 09/18/2024 [thanks to Oddrun Samdal]; waves 2018 and 2022: tables published on https://data-browser.hbsc.org/, accessed 08/29/2024. Survey question "Have you ever had so much alcohol that you were really drunk?", prevalence rate as percent at least twice during lifetime. Results based on authors' computations. Increases larger than 20 percent for boys and larger than 40 percent for girls are capped.

E. Synopsis –Youth Crime Trends

There is no doubt that youth crime has fallen considerably during the last two or three decades in almost all countries for which data exist. The crime drop is well documented in North America and West Europe, and partial evidence exists also for many countries in Central and Eastern Europe which participate in the international HBSC study. It seems thus justified to speak of a truly international trend. When did the youth crime drop start? This question is difficult to answer because most time series of self-report surveys started apparently only after the decline began. None of available national self-report surveys showed an increase for the first years of their existence, 1991 in the US and in the mid-1990s or later in Sweden, Finland, and some other European countries. It seems safe to say that the youth crime drop was ongoing during the 1990s in several Western countries but we cannot say whether it started simultaneously. Scandinavian scholars reported a declining trend of adolescent property crimes already for the 1970s and 1980s (Kyvsgaard 1991; Estrada 2001).

Looking at the available time series of police-recorded youth crime, we see turning points in different years in different countries, spread over a period of more than ten years: Earlier in the US, in the mid-1990s, later, during the 2000s, in several European countries. Yet, it is likely that police statistics still recorded increases when youth crime had already started to turn downwards. In any case, the youth crime drop started long before the internet and the smartphone began to change the lives of adolescents. The digital revolution is therefore unlikely to have caused it even if it may have grown more consequential for recent (and future) trends in youth crime. For bullying behavior specifically, we may currently see a displacement from face-to-face relations to the cyberspace.

The shrinking of the volume of youth crime in police statistics was so dramatic during the last fifteen to twenty years in some countries such as the US and England and Wales that it does not appear far-fetched to suspect changes in policing strategies as a contributing factor which would signal a reversal of previous more punitive approaches. Some studies from Sweden and Australia suggest that the youth crime drop may have led to a disproportionate decrease of one-time offenders and may not have extended equally to the more chronic offenders. Swedish scholars have provided the most solid evidence for rising socio-economic inequalities in the crime drop, with low-SES adolescents accounting for an increasing proportion of convicted offenders. As

crime rates for boys have declined more than for girls, the gender gap in youth crime has narrowed during last decades. And extending the perspective beyond criminal behaviors, other risk behaviors, too, have declined in a very similar fashion. This is particularly true for alcohol consumption which is seen as a major influence on crime. Taking together, these findings support the notion of a "unitary trend" (Ball et al. 2023) of youth risk behaviors; a synchronous trend that transcended behavioral domains and national borders, and calls for a broad and parsimonious explanations.

There are some indications that the youth crime drop has levelled off in recent years. The time series of self-reported property crimes have been trending upwards since 2015 in a remarkably synchronous development in five European countries. Thus, a turning point seems to have been reached before the Pandemic and before the recent upsurge in inflation which may account for an increase in acquisitive crimes (Rosenfeld 2014). A stalling of the decline is also visible in the police statistics of some countries but we lack a more comprehensive overview for the most recent years. The trend in violence does not closely follow that of property crimes, but its decline seems to have slowed or halted during the last decade according to some self-report studies. A recent increase in serious and gun violence among adolescents in Sweden seems to be an outlier in the European context (Sturup et al. 2019; Hradilova Selin et al. 2023). In the US, overall homicide rates have started to fluctuate since around 2015 (Rosenfeld et al. 2017; O'Brien 2023), and the youth homicide rate almost doubled between 2019 and 2022 (Tapp et al. 2024). Yet, youth violence continued to drop in many countries after 2018 according to the HBSC study.

Whether these recent trends signal an end to the long youth crime drop is unclear. There remain many open questions about the recent development of youth crime rates that cannot be answered on the existing empirical basis, pertaining both to the description of trends as well as to potential explanations. The 'digital displacement' hypothesis (Farrell and Birks 2020; McCord, Birch, and Lewis 2022; Aebi, Miró-Llinares, Caneppele 2025) and the intricate issue of cybercrime will certainly be one focus of future debates (Goldsmith and Wall 2019; Davidson et al. 2022; Weulen Kranenbarg, van der Toolen, and Weerman 2022).

II. Explanations of the Youth Crime Drop

In their extensive review for Crime and Justice, Farrell, Tilley, and Tseloni (2014) discussed an impressive list of 17 hypotheses on the causes of the crime drop, about half of which were related to the functioning of the criminal justice system and crime control measures, and others to socioeconomic factors such as inflation and demographic changes. Most hypotheses addressed macro-level processes and were assessed by the authors as either falsified or hard-to-prove. Some of the hypotheses were explicitly directed towards youth crime, such as the 'legalization of abortion' and the 'security' or 'debut' hypothesis which both assumed some sort of cohort effects on children and adolescents growing up in certain historical phases. Whereas Donohue and Levitt (2020) argued that the legalization of abortion improved child rearing conditions after the reduction in the number of 'unwanted children', Farrell et al. 2011; Farrell, Laycock, and Tilley 2015) claimed that engine immobilizers that very successfully prevented car thefts, which they regard as a typical starting point for more serious and also violent offenses, saved adolescents from embarking on criminal careers. Both hypotheses were controversial, both were tested in econometric analyses of national- and regional-level aggregate time series, and neither gained wider support in the scholarly discussion. One of the reasons for this was the very wide gap these hypotheses – just as most others in the crime drop debate – left between cause and effect and the lack of micro-level data that might provide evidence for mechanisms that were assumed to influence individual behavior (Baumer, Vélez, and Rosenfeld 2018).

In this rather unsatisfactory situation, a new branch of studies advanced the research field by shifting the perspective away from distal causes towards more proximate individual-level processes that can explain the declining tendency of adolescents to commit crimes. These studies exploited the increasing availability of national and international youth surveys that were collected annually or in larger intervals and as repeat cross-sectional data offered new opportunities to investigate longer-term changes in adolescent behavior including crime and other risk behaviors. In contrast to earlier studies of a more descriptive character that looked at correlations of highly aggregated time series, these survey-based studies were able to model the associations between delinquent behavior and a number of independent variables at the individual level, using appropriate modeling approaches like multilevel regression analysis to

deal with repeat cross-sectional or multi-cohort longitudinal datasets. The set of available explanatory variables necessarily reflect the theoretical foci that dominated empirical research on juvenile delinquency at the time of the inception of these survey programs. On a very general level, relations to parents, school, and peers, and routine activities that characterize the daily lives of adolescents, were the core topics that were common to these surveys.

In the following, we will present these variables and their underlying theoretical assumptions in more detail and discuss the empirical evidence for their associations with crime and other risk behaviors in recent studies on the youth crime drop. We group the variables into five domains: parenting, school relations, attitudes toward crime, unstructured face-to-face socializing, and the use of the internet and digital media. All domains have been discussed as proximal processes with relevance for the decline in youth crime (e.g., Arnett 2018; Baumer, Vélez, and Rosenfeld, 2018; Baumer, Cundiff, and Luo 2021; Osgood 2023; Ball et al. 2023). Following Baumer's and colleagues (Baumer, Vélez, and Rosenfeld, 2018) overview on causal processes, the first and second domains can be related to the process of social controls that inhibit crime, the third domain to the process of propensities and motivations to commit crime, and the fourth and fifth domains to the process of exposure to settings conducive to crime.

We concentrate on a few recent studies for the discussion of the empirical evidence for explanations of the youth crime drop. *Table 1* offers a short overview on – to our best knowledge - all existing studies with crime as the outcome in this fairly new research field. More studies (often using the same survey data) have investigated other types of risk behaviors, i.e. substance use; these are not listed in *table 1* but referred to in the following section.

To briefly introduce these studies, first, the pioneering study by van der Laan et al. (2021a, first published in 2019) employed three cohorts (2005, 2010, and 2015) of the Dutch Youth Delinquency Survey, a face-to-face survey among a representative sample of Dutch juveniles aged from 12 to 17 years, to investigate the impact of various individual-level risk and protective factors on youth crime. Self-reported crime had moderately decreased between the three waves. The 2015 cohort was observed to exhibit reduced exposure to risk factors (e.g., alcohol use and delinquent peers) and increased exposure to protective factors (e.g., parental emotional support and monitoring) compared with previous cohorts. Though they ran separate models by survey

wave and did not test for the effects of changes in risk and protective factors on changes in crime, the authors concluded that these predictor changes may account for the observed decrease in self-reported offending. Secondly, Baumer, Cundiff, and Luo (2021) used 25 annual waves from 1991 to 2015 of the Monitoring the Future (MTF) study to investigate whether variables representing different theoretical processes are associated with changes in the prevalence of delinquency. They used the overall prevalence of crime and applied non-linear multilevel modeling with survey years as group level and added a control for serial autocorrelation. Thirdly, Svensson and Oberwittler (2021) used eight waves from 1999 to 2017 of the Swedish national self-report survey and applied linear multilevel modeling of a log-transformed frequency scale of overall offending. The study by Näsi et al. (2024) used five waves of the Finnish national self-report survey from 2004 to 2020 for an analysis that is very similar to Svensson and Oberwittler (2021).

The MTF data has been repeatedly used for analyses of the youth crime drop. Borodovsky et al. (2021) focused solely on the effect of changes in unstructured socializing on changes in risk behaviors, while Lu (2024) looked at gender differences in the effects of several variables on crime and also applied a KBO decomposition analysis to estimate the proportional relevance of characteristic vs. effect changes in the decline of youth crime. A characteristic change would exist if adolescents became e.g. more attached to their parents and would therefore offend less often, whereas an effect change would hold true if the attachment to parents remained on a similar level but its impact (technically, its slope) on offending behavior would become stronger. The latter effect has rarely been considered in extant research, and Lu (2024) found a significant effect change only for unstructured socializing (see below).

Table 1: Overview on repeated cross-sectional self-report studies on the youth crime drop

Study	Sample	Statistical modelling	Outcome	*Hypothesis confirmed*					Conclusion
				Parents	School	Atti-tudes	US	Internet	
Baumer et al. (2021)	US, MTF, repeat national cross-sectional data 1991-2015, N = ca. 204,000	Multilevel, logistic regression, KHB-test	Delinquency prevalence scale	YES	YES	NT	YES	NT	Alcohol frequency, US, sensation seeking strongly associated with declining delinquency. Parenting less relevant, school attachment irrelevant. 35 percent of decline accounted for.
Borodovsky et al. (2021)	US, MTF 12th grade, repeat cross-sectional 1999-2017 N = ca. 45,000	Structural equation modeling	Risk behavior (prevalence of substance use, delinquency)	NT	NT	NT	YES	NT	US mediates 86 percent of decline in risk behavior.
Lu (2024)	US, MTF 12th grade repeat national cross-sectional 1988/92 and 2015/19, N = c. 17,000	Multilevel logistic regression, KBO-test	Delinquency prevalence scale	NT	YES	NT	YES	NT	Focus on sex differences. Alcohol frequency, US strongly associated with declining delinquency. US has a stronger declining effect for boys than for girls. 35 percent of decline for boys, 38 percent of decline for girls accounted for.
van der Laan et al. (2021)	The Netherlands, Youth Delinquency Survey, 2005, 2010, 2015 N = 4,855	Logistic regression for each of the cohorts	Delinquency scale (total and serious)	YES	YES	NT	NT	NT	Found changes in parenting to be of importance for the difference between different cohorts. Based on descriptive analysis: crime drop linked to a decrease in exposure to risk and to an increase in exposure to protective factors.
Svensson and Oberwittler (2021)	Sweden, Delinquency Survey, repeat national cross-sectional 1999-2017 N = ca. 48,800	Multilevel linear regression (negative binomial)	Delinquency scale (frequency)	YES	YES	YES	YES	NT	Found changes in parenting, school relations, attitudes toward crime and, most strongly, US and alcohol consumption were all associated with changes in delinquency. 88 percent of the decline accounted for.
Näsi et al. (2024)	Finland, Self-Report Delinquency Study, repeat cross-sectional, 2004-2020	Nested logistic regressions, KHB test	Delinquency (violence, property)	YES	YES	YES	YES	NT	Changes in alcohol consumption, unstructured socializing (with older peers), truancy explain changes in delinquency

Note: NT = not tested; MTF = Monitoring the Future Study. US = Unstructured socializing. KHB = Karlson–Holm–Breen; KBO = Kitagawa–Blinder–Oaxaca.

A. Changes in parenting and parent-child relations

The family environment has been a central focus of research on juvenile delinquency since many decades (e.g., Hirschi 1969; Loeber and Stouthamer-Loeber 1986). Within this field a large number of predictors relate to different domains such as parenting styles, child-parent relations, and parental control. Concerning parental control, the literature demonstrates a robust association between poor parental monitoring and delinquency (e.g., Hoeve et al. 2009; Loeber and Stouthamer-Loeber 1986). How may this association contribute to the explanation of the youth crime drop? A widespread assumption is that children and adolescents are today subjected to greater supervision and control by their parents than they were 20 years ago, supported by studies in a number of countries, including Iceland, New Zealand, the Netherlands, Sweden, Finland, and the UK (Kristjansson et al. 2010; Clark et al. 2013; van der Laan et al. 2021a; Svensson and Oberwittler 2021; Raitasalo et al. 2021; Collishaw et al. 2012). However, Baumer, Cundiff, and Luo (2021) reported only minor changes in parental supervision in the US in recent decades. Furthermore, research indicates that parents nowadays dedicate a greater proportion of their time to their children (Ball et al. 2023). Dotti Sani and Treas (2016) used detailed time budget data from eleven Western nations to estimate a considerable growth in time spent with children both for mothers and fathers between 1970 and 2010, and comparing two national surveys in the UK conducted in 1986 and 2006, Collishaw et al. (2012) reported a rise in quality time with parents. More quality time and better parent-child relations may also increase the inclination of adolescents to disclose information to their parents, in line with Stattin and Kerr's (2000) explication of parental monitoring.

But parents do not necessarily need to spend physical time with their children any more in order to exert supervision, as this can increasingly be achieved by technological means: Parents are now able to keep in constant contact with their children through their mobile phones or smartphones, prompting a discussion about an increased electronic surveillance and the excesses of 'helicopter parenting' (Doepke, Sorrenti, and Zilibotti 2019; Twenge and Park 2019). Frequent contact via smartphones and social media provides parents with the opportunity to be informed about their children's whereabouts and activities. Thus, Arnett (2018) argues that while "traditional parental monitoring" has decreased, "electronic monitoring" has increased. Online communication is also a relevant feature of adolescents' routine

activities which we will discuss below. Finally, as research also shows that young people spend more time at home, parents then know more about where they are (see below). On the other hand, this does not necessarily imply that parents know what they are doing with whom on the internet which poses new forms of risks such as cyberbullying.

Improved parent-child relations may have contributed to stronger conventional bonds and less strain among adolescents. Long-term declining trends of physical child abuse in the US and UK (Farrell, Tilley, and Tseloni 2014; Finkelhor 2020; Degli Esposi et al. 2019) and of corporal punishment in many countries (Lansford et al. 2017) signal a historical development towards better and more mindful parenting practices.

Among the studies listed in *table 1*, those that included parental monitoring did find relevant effects on the decline of crime (van der Laan et al., 2021a; Baumer, Cundiff, and Luo 2021; Svensson and Oberwittler 2021; Näsi et al. 2024). Baume, Cundiff, and Luo (2021) reported only a weak association and Svensson and Oberwittler (2021) a stronger association with changes in delinquency. In the neighboring research field of adolescent health and substance use, stricter parental rules and supervision have been discussed as an explanation for the decrease in alcohol consumption, and while several empirical studies have supported this hypothesis (Wicki, Labhart, and Gmel 2019; Vashishtha et al. 2022) overall the evidence is mixed (Larm et al. 2018; Raitasalo et al. 2018; Ball et al. 2020).

B. Changes in relation to school

A substantial body of research has demonstrated a correlation between weak emotional attachment to school and delinquency (e.g., Peppler 2019; Payne 2008). Time trends in students' attachment to school or 'school belonging' remains a relatively neglected area of research, and extant research did not reveal unambiguous trends (e.g., Allen et al. 2018). While Svensson and Oberwittler (2021) reported a strengthening of school bonds among 9th grade students in Sweden between 1999 and 2017, Högberg et al. (2021) based on Swedish PISA data found the opposite trend during the same period, especially among low-SES and foreign-born students. Van der Laan et al. (2021a) in the Netherlands and Baumer, Cundiff, and Luo (2021) in the US did not identify strong temporal shifts in young people's attitudes towards school. Lu (2024) using the same data as Baumer found a decline in school bonds but an increase in college aspirations.

The latter finding would support the notion that the perceived importance of education has increased over time. For example, Curran and Hill (2019) reported a long-term increase in "socially prescribed perfectionism" among US college students, which they attributed to increased pressure for academic achievement in a meritocratic society. This may result in an increase in the number of young people who refrain from skipping school and committing crimes because they do not want to risk their future (Kivivuori and Bernburg 2011; Clark et al. 2013; Raitasalo et al. 2018). These considerations might suggest that adolescents not only increased the levels of their school attachment and educational orientations, but that the behavioral impact of these attitudes also became stronger. Yet, the only study to investigate this question did not find a significant effect change (Lu 2024).

The assertion that school has become a more meaningful institution for young people is supported by a range of observed behavioral changes. For instance, research indicates that truancy and school misconduct have declined over time (Rossow et al., 2020). Additionally, adolescents are dedicating more time to homework, and expressing greater satisfaction with their educational experience (Rossow, Pape, and Torgersen 2020; Stevely et al. 2022). Additionally, research indicates that young people's pressure in relation to perceived schoolwork has increased over time (de Looze et al. 2020; Löfstedt et al. 2020; Cosma et al. 2020).

Again, Baumer, Cundiff, and Luo (2021) found that changes in school relations exhibited a weak association with changes in delinquency, whereas Svensson and Oberwittler (2021) identified a more significant association between the two variables. In other studies, focusing on alcohol as a measure of risky behavior, it has been demonstrated that changes in school factors, such as an increase in homework pressure, were weakly associated with declines in alcohol use (Rossow, Pape, and Torgersen 2020; Stevely et al. 2022; cf. Ball et al. 2023, for further and mixed evidence).

C. Changes in attitudes toward crime

Research shows that attitudes toward crime are strongly associated with delinquency (Antonaccio and Tittle 2008; Wikström et al. 2012; Svensson et al. 2013). Possible changes in the moral climate and in societal attitudes towards crime did not figure prominently in several major publications on the crime drop (Blumstein and Wallman 2006; Zimring 2006; van Dijk, Tseloni, and Farrell 2012; but see Baumer, Vélez, and

Rosenfeld 2018). Taking the very long view since the mid-twentieth century and before, Eisner (2014) found negative time series correlations between crime rates and indicators of cultural norms favoring morality, civility, and self-control in the Western world. Berghuis and de Waard (2017) discussed the inhibitory effect on crime induced by an increase in disapproving attitudes toward crime in the Netherlands. Empirical, survey-based evidence for a trend towards less approving attitudes to crime among adolescents was reported in Finland (Salmi 2009) and Sweden (Svensson and Oberwittler 2021). None of the other studies in table 1 investigated the role of attitudes towards crime (probably because of a lack of data availability). Pape, Rossow, and Brunborg (2018) reviewed the existing evidence for a change in adolescents' attitudes towards alcohol consumption which is seen as an explanation for the decline in actual consumption patterns.

D. Changes in unstructured face-to-face socializing with friends

The role of unstructured socializing in youth offending is the focus of one of the more substantial innovations in recent criminological research that attempts to integrate the situational dimension into theories of crime causation. Research shows that face-to-face socializing with friends and just hanging around in the absence of authority figures, i.e., without social control, is strongly associated with delinquency (Agnew and Petersen 1989; Osgood et al. 1996; Bernasco et al. 2013; Hoeben et al., 2016; Svensson et al. 2023). Unstructured socializing includes, but is not limited to, riding around in a car for fun, getting together with friends informally and not doing anything particular, going to parties, and spending evenings out for fun and recreation (e.g., Osgood et al. 1996; Hoeben et al. 2016). Pursuing these types of activities without being supervised by adults in the company of peers exposes adolescents to different types of settings which in turn produce different types of situations which increase the risk of delinquency (Osgood et al. 1996). Whether adolescents are more likely to offend in situations of unstructured socializing may be conditional on moderating factors such as personal propensities, e.g. low self-control and moral values (Wikström 2006; Wikström et al. 2012).

In many studies and in many countries, it has been found that the proportion of young people socializing with friends in unstructured activities has declined over time (Keyes et al. 2018; de Looze et al. 2019; Twenge, Spitzberg, and Campbell 2019; Rossow, Pape, and Torgersen 2020; Svensson and Oberwittler 2021; Baumer, Cundiff,

and Luo 2021; Osgood 2023). For example, according to analyses based on data from the MTF study, unstructured socializing with friends declined among US adolescents by 30 percent between 1999 and 2017 (Borodovsky et al. 2021), and it declined for both genders (Lu 2024). This decline has also been found across a range of age groups, including children, adolescents and young adults (e.g. Ball et al. 2023). Stricter parental rules and supervision (see above) have been discussed as one possible driver of the decline of unstructured socializing (de Looze et al. 2019); the rise of digital media is another which we will discuss in the next section.

The majority of studies focusing the decline of youth crime have examined the potential association between changes in unstructured socializing and changes in delinquency, and three studies use data from the MTF study. The results of these studies demonstrate that young people's daily routines have undergone significant changes over an extended period. These changes include a reduction in alcohol consumption, decreased time spent with friends in the evenings, and a decline in participation in unstructured activities. It is these changes in behavior that have been identified to correlate most strongly with changes in delinquency (Borodovsky et al. 2019; Baumer, Cundiff, and Luo 2021; Lu 2024). The findings of both Baumer, Cundiff, and Luo (2021) and Svensson and Oberwittler (2021) indicate that this predictor is the most significant in understanding the decline of youth crime (for a discussion, see Osgood 2023). Importantly, Svensson and Oberwittler (2021) added interaction effects between variables representing routine activities and attitudes towards crime to the models and found that routine activities lose most of their effect on offending for the adolescents who strongly disapprove of criminal behaviors. Thus, unstructured socializing predicts crime only conditional on deviant attitudes which is a key proposition of situational action theory (Svensson and Oberwittler, 2010; Gerstner and Oberwittler 2018).

Changes in unstructured socializing and alcohol use have been found to be the strongest predictors of the crime drop for both boys and girls using KBO decomposition modelling of the MTF study (Lu 2024). Unstructured socializing was the only predictor in her analysis with both significant characteristic and effect changes, especially for boys. Not only did adolescents spent unstructured time with peers less frequently over time, but the association between unstructured socializing and offending

also became weaker over time.[4] Furthermore, changes in unstructured socializing have also been found to be associated with changes in risk behaviors such as alcohol use and smoking based on HBSC data and other surveys on adolescents' substance use (de Looze et al. 2019; Rossow, Pape, and Torgersen 2020; Arnold, Horváth, and Elekes 2024). A recent study by Buil-Gil (2025) combined aggregate time series constructed from annual time use and victimization surveys in the US to find a strong positive association between spare time away from home and property and violent victimization of adolescents and young adults that contributes to the explanation of declining victimization rates during the last two decades.

E. Increased use of digital media and virtual socializing with friends

A prominent hypothetical explanation of the youth crime drop is the digital revolution and its impact on young people's daily activities and lifestyles (Green 2016; Berghuis and De Ward 2017; Arnett 2018; Tcherni-Buzzeo 2019). Since the digital revolution and the spread of broadband, and especially since the advent of smartphones and affordable mobile internet, young people have spent increasing amounts of time using computers and mobile devices. This may have caused lasting effects on socialization patterns, i.e. a shift away from offline, face-to-face interactions to online interactions on digital media platforms, as well as to time spent on computer games and the consumption of multimedia content; both activities may or may not involve virtual interactions with peers. There is a gender imbalance in the time use of digital media: boys tend to prefer games, girls social media (Twenge and Martin 2020; Svensson, Johnson, and Olsson 2022). This development is sometimes referred to as the *displacement* hypothesis (e.g., Twenge et al., 2019; Ball et al., 2023). According to an influential scholarly opinion, the displacement of face-to-face interactions by digital media time is responsible for a decrease in psychological well-being and feelings of loneliness (Twenge, Spitzberg, and Campbell 2019; Twenge and Martin 2020; Weybright, Schulenberg, and Caldwell 2020). A current meta-analysis on the link between digital media use and psychological well-being reported very weak negative effects at best, although these may have grown stronger in recent years (Orben and Przybylski 2019; Liu, Baumeister, and Yang 2024).

[4] An intriguing question is whether this weakening over time might reflect an unmeasured interaction effect between unstructured socializing and deviant attitudes which can be expected to exist also in the MTF data.

One possible consequence of displacement is that adolescents who spend a significant amount of their time with digital media are less likely to engage in delinquent and other risk behaviors because they spend less time in face-to-face interactions with peers. However, the empirical research on this question presents us with a puzzle: Adolescents who spend more time on digital media spend also more face-to-face time with peers (Twenge, Spitzberg, and Campbell 2019), and are also more likely to consume alcohol, nicotine and cannabis, in apparent contradiction to the displacement hypothesis (de Looze et al. 2019; Vashishtha et al., 2022). Twenge, Spitzberg, and Campbell (2019, p. 1907; Twenge et al. 2021) still maintain that even though not on the individual level, the association between increasing digital media time and decreasing face-to-face time with peers still holds on the cohort or aggregate level. Yet, it remains unclear which mechanisms are responsible for opposing effects on micro- and macro-levels, and whether a macro-level co-occurrence between the increase of digital media use and the decrease of face-to-face socializing can be interpreted as causal.

F. Synopsis – Explanations of the Youth Crime Drop

After having discussed the relevance of each of the five theoretical domains for the youth crime drop separately, we now look at the overall picture that has emerged from the empirical studies listed in *table 1*. Which domain had the strongest effect on the youth crime drop, which turned out to be less relevant, and how concurrent were the results of these studies?

We start with a comparison of the two studies by Baumer, Cundiff, and Luo (2021) and Svensson and Oberwittler (2021) which Osgood (2023) jointly highlighted in his Sutherland Address at the 2022 meeting of the American Society of Criminology. When assessing the high degree of congruence between the two studies in terms of conception, modeling, and results, it is worth mentioning that they were conducted in full mutual ignorance. Both studies were based on repeat cross-sectional survey data from the US and Sweden respectively and employed multilevel regression analysis to explain the year-level variance stemming from the decline in offending over several survey waves. Both studies found that changes in alcohol consumption and unstructured socializing had by far the greatest explanatory power, accounting for about 19 percent and 14 percent respectively of the temporal variance in the US study, and about 88 percent and 72 percent respectively of the temporal variance in the Swedish study. Changes in parental and school bonds explained very little of the temporal variance in

the US study and also much less in the Swedish study. In the US study, overall about 35 percent of the decline of youth crime could be explained by all predictors, whereas 95 percent of the decline (88 percent excluding alcohol intoxication) could be explained by all predictors in the Swedish study. This large difference in total explained temporal change may be due to a lesser crime drop (about 35 percent in the US study vs. about 50 percent in the Swedish study), different outcome variables (prevalence vs. frequency), different regression functions (logistic vs. linear), or different numbers of survey waves (25 vs. 8). In any case, relatively to the overall explanatory power, changes in unstructured socializing and alcohol consumption in both studies took the lion's share of the explained variance attributable to changes in crime. Interestingly, the individual-level, cross-sectional effect of unstructured socializing on crime had the lowest explanatory power of all predictors in the Swedish study; what mattered was the co-occurrence of changing routine activities and changing crime. This is intuitively supported by the much stronger decline of the routine activity variables compared to most other variables which were graphically displayed in both studies (Baumer, Cundiff, and Luo 2021, figure 2; Svensson and Oberwittler 2021, figure 2). Inversely, sensation seeking contributed relatively little (5.5 percent) to the explanation of the temporal change in crime in the US study despite a strong individual-level, cross-sectional effect.

Of the two other studies using the MTF data (but a higher school grade), Lu (2024) also presented results of logistic regression models with a similar set of explanatory variables as in Baumer, Cundiff, and Luo (2021). Again, alcohol consumption and unstructured socializing came out as the two strongest predictors of the change in offending thus corroborating the previous findings. By applying the KBO decomposition method she added the important finding that apart from engaging in lower levels of unstructured socializing, boys in the most recent survey waves "also experience smaller effects of this variable on their offending" (Lu 2024, p. 17). In other words, the effects of unstructured socializing on the likelihood of offending have become weaker over time. If, as Svensson and Oberwittler (2021) have shown in their analysis, the effect of unstructured socializing on crime is conditional on delinquent attitudes, then the weakening of the effect over time in Lu's (2024) analysis might be due to unmeasured changes in attitudes which likely got less deviant over time in US adolescents as well. Finally, Näsi's et al. (2024) analysis of five waves of a Finnish youth survey yielded the largest contributions to the explanation of the decline in both violent

and property offending for alcohol consumption (about 31 percent and 24 percent respectively), and the second largest contribution for unstructured socializing with older peers in the case of violent offenses (20 percent) and for truancy in the case of property offenses (18.5 percent). The models explained overall 83 percent of the temporal change in violent crime and 54 percent of the temporal change in property crime. In contrast, a variable measuring delinquent attitudes (neutralization) which had a significant cross-sectional effect on crime did not contribute substantially to the explanation of the its temporal change. Finally, using a different modeling approach, the study by Borodovsky et al. (2021) confirmed the paramount relevance of unstructured socializing that accounted for 86 percent of the decline in crime and substance. Viewed together, independent studies from three countries consistently showed that adolescents' changing routine activities are the key to understanding the youth crime drop. Of course, this raises the next question which factors can explain these changes in the daily lives of adolescents. If we consider unstructured socializing as proximal causes of criminal behavior, this does not invalid the relevance of more distal influences on routine behaviors, and much less is known on these aspects of.the social change of adolescents' lives.

III. Conclusion

The international youth crime drop was a marked decline of youth crime rates that happened in many countries roughly between the 1990s and 2010s, possibly starting even earlier in some countries, and seemingly leveling off during most recent years. What caused this drop has been the subject of many hypotheses and discussions. Recent studies using repeat cross-sectional self-report surveys accumulated over many years have successfully advanced criminological knowledge on the likely causes of the youth crime drop. This new research has swapped macro-level approaches and correlational analyses of aggregated time series for a focus on micro-level mechanisms and proximal predictors of crime. Compared with merely suggesting a correlation between two parallel trends of national aggregate time series, the proof that such associations exist on the micro-level of individual adolescents is important and marks a step toward exploring the causal mechanisms of long-term changes in criminal behavior. In the second part of this article, we have presented and reviewed key studies and their

findings in this emerging research field. In the first part, we have collected much of the available time series from official statistics and self-report surveys from several countries which were previously scattered across the literature or agency websites in order to give a broad overview on international youth crime trends.

In the following, we want to highlight some lessons that can be drawn from the findings presented in this article, and raise questions that merit further research.

A. Theory: the role of routine activities

The core result coming out of recent research is the paramount role of changing routine activities on youth crime trends. The declining relevance of unstructured socializing and alcohol consumption in adolescents' daily lives consistently turned out to be by far the most important factors explaining the decline of youth crime. Adolescents not only spent less unsupervised time with peers and were less likely to commit crimes, they also reduced the consumption of alcohol and other 'risky' substances. This result clearly boosts routine activity and situational theories of crime causation. Situations in which opportunities and inducements for crime abound have long been considered as causes of crime in their own right (Osgood et al., 1996; Hoeben and Weerman 2016). Echoing the original phrase by Cohen and Felson (1979), Osgood (2023) stressed the need to focus on the "ordinary, everyday activities" in order to understand youth crime and what has reduced it. These findings cast doubt on the security or 'debut crime' hypothesis (Farrell et al., 2011; Farrell, Laycock, and Tilley 2015). It seems unlikely that technical security devices in cars rather than the broader changes in adolescent everyday activities accounted for the decline in youth crime. While not testing the security hypothesis directly, the survey results on the concurrent decline of other, non-criminal risk behaviors seem to offer an alternative and more plausible explanation for the youth crime drop.

The support for routine activity theory does, however, not diminish the role of other dimensions in crime causation. If unstructured socializing and alcohol consumption can be seen as proximal causes of crime, then the question remains which more distal factors have influenced adolescents to change their daily life routines and stay at home more often rather than meeting with peers. Parent-adolescent relations, school-related concerns, among other factors, may have had an impact on changing routine activities, and we know much less about these underlying processes of social chance.

The support for routine activity theory also does not diminish the role of other, person-centered dimensions of crime causation. While Osgood (1996, 2023) assumes that the criminal inducements during unstructured socializing appeal to nearly everyone, other theories such as situational action theory focus more on the interactions between situational contexts and individual differences in the propensity to commit crime (Wikström 2006, Wikström et al. 2012). In the Swedish study, the association between routine activities and crime was found to be conditional on delinquent attitudes (Svensson and Oberwittler 2021). While this interaction worked on the individual level, it seems possible that also the association over time between changing routine activities and changing youth crime could be influenced by attitudinal dimensions.

The increasing availability of repeat cross-sectional survey or multi-cohort data spanning over decades has opened a window for the study of social change of adolescence in contemporary societies. This adds the historical dimension to an inherently a-historical discipline that is interested in the generalizability of theories and is overwhelmingly searching for individual-level processes. Neil and Sampson (2021) demonstrated how the impact of person-level variables on arrest trajectories varies by historical period, and how historical conditions during the formative years of childhood and adolescence may have long-term consequences, calling this the 'birth lottery of history'. In a similar vein, the dramatically modified shape of the age-crime curve which was declared invariant across history and cultures by Hirschi and Gottfredson (1983) forcefully illustrates the impact of social change. Criminologists should more often consider the potential influence of social chance and historical context on their theoretical models. How to link macro-level sociohistorical changes to changes in the patterns of individual behavior, however, is a largely unsolved theoretical challenge (Sampson and Smith 2021).

B. Interdisciplinarity

Research on the youth crime drop offers a prime example of the worth of interdisciplinary approaches and of the perils of a narrow orientation on criminal behavior only. Debates on the causes of the youth crime drop have been too 'crime-centric', while research in neighboring fields on adolescent risk behaviors essentially found identical trends and looked for explanations in the social conditions of adolescents' daily lives. There are some examples to the contrary (e.g. Grucza et al. 2018; Keyes et al. 2018; Ball et al. 2023) but disciplines tend to keep a narrow focus on their respective core

topics and to pay less attention to what is going on in neighboring research fields, or lose sight of broader, interdisciplinary perspectives that have existed within criminology for a long time. The 'generality of deviance' approach formulated by criminologists during the 1980s arose from the realization that adolescent risk behaviors should not be viewed in isolation (Osgood et al. 1988; Jessor 1992; Hirschi and Gottfredson 1994). We argue that criminological research on the youth crime drop would gain from revitalizing this tradition and taking more notice of developments in the neighboring field of non-criminal risk behaviors. If these types of adolescent risk behaviors showed the same declining trends as criminal types then hypotheses about the specific effects of criminal justice policies or crime prevention measures would appear less convincing, and the search for more fundamental and parsimonious explanations of changes in adolescent behaviors would become even more promising (Ball et al. 2023). This insight can in our view be extended to other research topics.

C. Tasks and questions for future research

As the international youth crime drop is showing signs of stalling and we may enter a new phase of probably more fluctuating and less predictable crime rates, it is important that scholars continue to trace and document these developments using both self-report and official data in order to achieve more certainty about the direction of trends. Will youth crime rates remain on the current low levels or will they rise again towards previous levels? Will the trend remain similar across countries or will it become more varying? Ideally, more countries should launch self-report survey programs using national-representative samples of adolescents, and existing initiatives for multi-national survey programs such as the ISRD should strive for more continuity to facilitate longitudinal cross-country analyses.

Current knowledge about polarization processes remains very fragmented. For most countries, it is unclear to what extent the youth crime drop was due to a declining proportion of cohort members who offend or to a declining number of offenses by active offenders, or a combination of both. Also, little is known about potentially diverging trends for subcategories of crimes such as serious violence which seems to have been on the rise in Sweden against an overall declining trend (Sivertsson et al. 2025). Both aspects are highly policy-relevant, and police data of recorded youth crime should be prepared and provided in ways that facilitates such analyses.

Self-report surveys are not only crucial for a less biased measurement of youth crime but also for collecting the variables necessary to test hypotheses about what can explain offending, its change over time, and similarities and differences in crime trends across countries. The existing survey programs in the US and Sweden have successfully been employed to identify micro-level processes that contribute to a better understanding of the youth crime drop. Yet, even if unstructured socializing and alcohol consumption apparently stand out as strongest predictors and promising explanations of the crime drop, more rigorous research, more theoretical reasoning and better measurements are needed to advance this research field. Existing surveys often employ poor or selective measurements of key theoretical constructs limiting the depth of analyses. With their roots in the 1980s and 1990s, these long-running survey programs of course do not fully reflect recent advances in theory and measurement of delinquency research such as on self-control, family and peer relations, and online behaviors. An intriguing observation from the analysis of repeated cross-sectional surveys is that variables which are strong individual predictors of offending cross-sectionally may be much less or not at all relevant for the explanation of changes over time, and vice-versa. Diverging trends of alcohol and cannabis consumption and their respective associations with youth crime trends appear particularly puzzling. To investigate these seemingly paradoxical findings further, the extension of analytical approaches from repeated cross-sectional surveys to multi-cohort panel surveys would offer advanced possibilities for the analysis of change over time.

Yet, explaining past youth crime drop does not necessarily help to understand future developments which may be influenced by a different set of social processes. It seems likely that the continuing digitalization of society and the transformation of social and economic interactions will have long-term effects also on youth crime. Currently, criminologists do not know to what extend the cyberspace plays a role in adolescent criminal behavior, and whether as shift from traditional to cybercrimes has been part of the crime drop. The first challenge for criminology in this respect is to adjust the measurement of youth crime to new forms of cyber-related crime (Goldsmith and Wall 2019; Davidson et al. 2022; Weulen Kranenbarg, van der Toolen, and Weerman 2022) before a debate about ‘digital displacement’ can fruitfully be pursued (McCord, Birch, and Bizo 2022; Aebi, Miró-Llinares, and Caneppele 2025).

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APPENDIX

Figure A1: Prevalence of fighting among 15 years-old students (with quadratic fit lines)

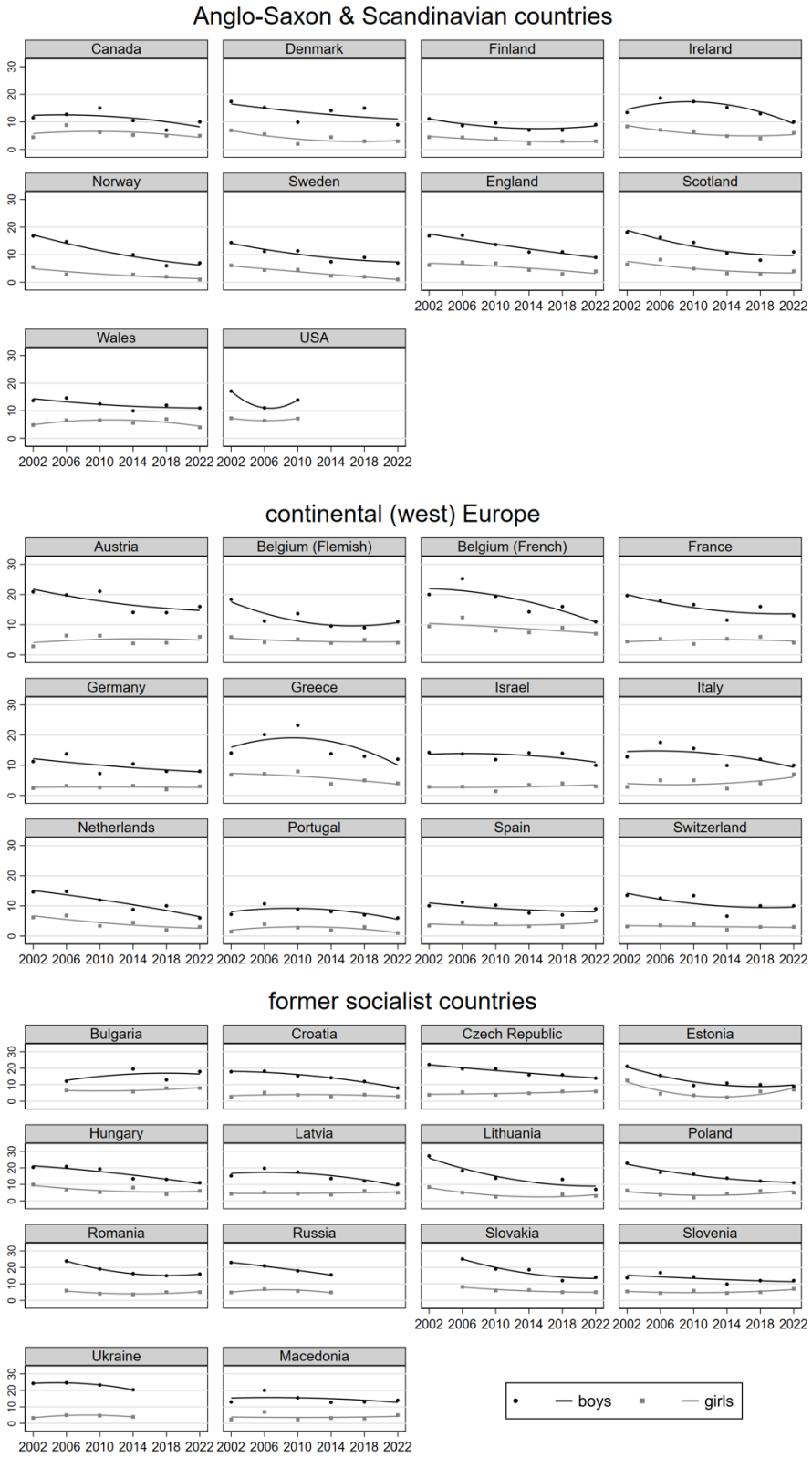
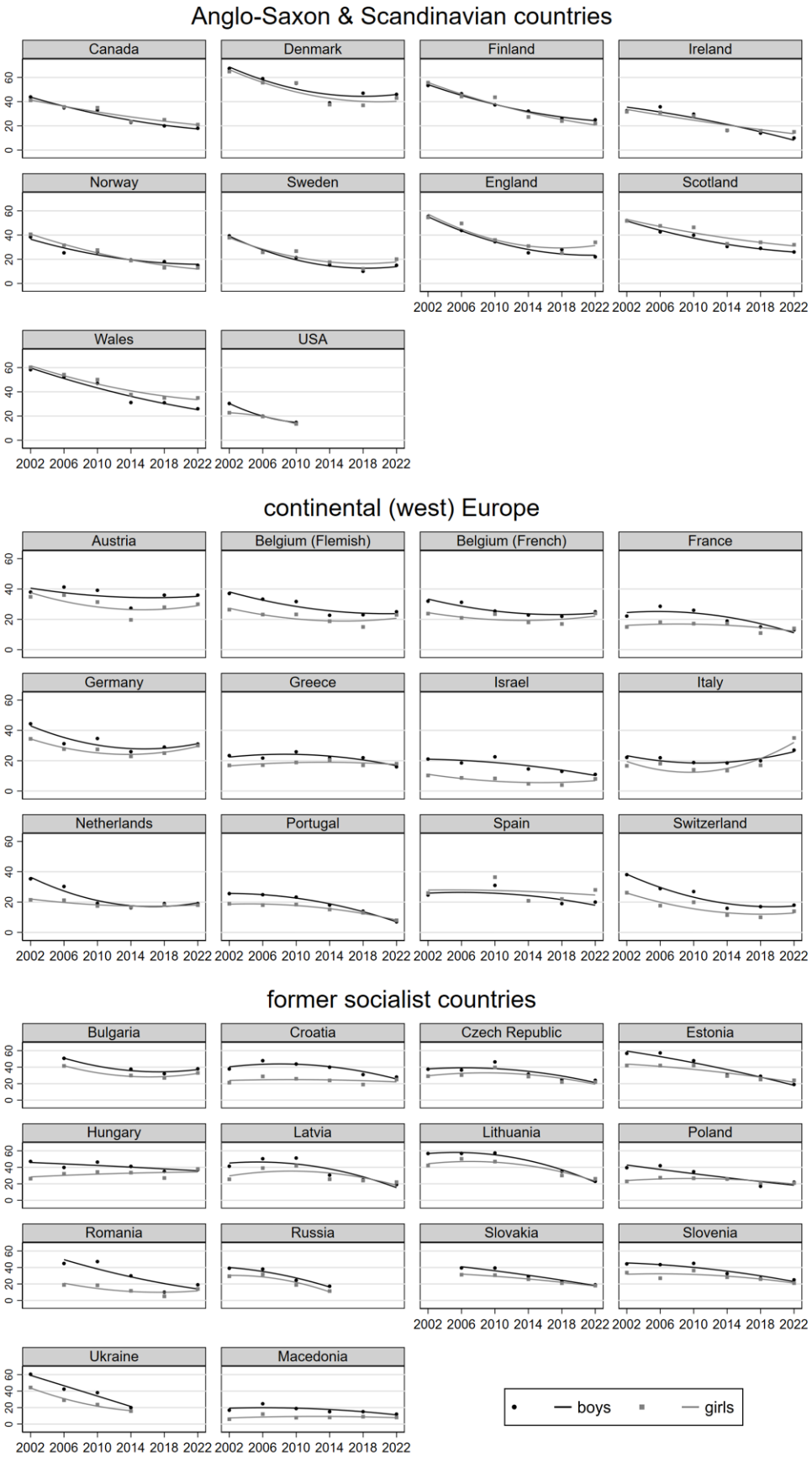


Figure A2: Prevalence of alcohol intoxication among 15 years-old students



Sources for figures A1-A2:

Source: Health Behavior in School-Aged Children, waves 2002 to 2014: raw datasets provided via https://www.uib.no/en/hbscdata/113290/open-access, (accessed 18 Sept 2024, access provided by Oddrun Samdal); waves 2018 and 2022: tables published on https://data-browser.hbsc.org/, accessed 19 Aug 2024. Figures based on authors' computations.