

Stephen Machin<sup>1,2</sup> and Matteo Sandi<sup>2,3</sup>

<sup>1</sup> Department of Economics, London School of Economics, London, United Kingdom;  
email: s.j.machin@lse.ac.uk

<sup>2</sup> Centre for Economic Performance, London School of Economics, London, United Kingdom

<sup>3</sup> Department of Economics and Finance, Catholic University of Milan, Milan, Italy

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## Keywords

crime, education

## Abstract

Research studying the connections between crime and education is a prominent aspect of the big increase of publication and research interest in the economics of crime field. This work demonstrates a crime-reducing impact of education, which can be interpreted as causal through leveraging research designs (e.g., based on education policy changes) that ensure the direction of causality flows from education to crime. A significant body of research also explores in detail, and in various directions, the means by which education has a crime-reducing impact. This includes evidence on incapacitation- versus productivity-raising aspects of education and on the quality of schooling at different stages of education, ranging from early age interventions through primary and secondary schooling to policy changes that alter the school dropout age. This evidence base shows that there are education policies that have been effective crime prevention tools in many settings around the world.

# 1. INTRODUCTION

Over the years, numerous social science research studies have explored a wide range of determinants of criminal behavior. The focus has been placed on demography (e.g., age, gender, race), on acquired characteristics (e.g., education, immigrant status), and on many economic and social characteristics (e.g., income, family, community factors) as potential drivers of criminality. In this review, we focus on one of these, education, a driver of crime that has been featured in social science research for a long time but has only more recently received primary attention in the economics of crime literature.

The potential for education, broadly defined, to impact crime has recently been studied intensively as the economics of crime field has grown rapidly. **Table 1** shows this expansion of research endeavor, presenting bibliometric evidence on publications about the economics of crime, and more specifically on crime and education, in a set of 21 of the leading academic journals in economics across decades from the 1990s onward. In each year of the 1990s, an average of 6 publications made it into these journals. In the 2000s, this number rose to 19. Then it almost doubled, reaching 37 per year in the 2010s. From 2020 to date, it went even higher, nearly doubling again to 76 per year. This amounts to a very sizable share for the economics of crime field, which has gone from being a fledgling research area 40 years ago to a sizable and growing contemporary one.

**Table 1** also shows the number of crime and education papers within this rapid growth and their share. There were none in the 1990s, 5% of all published papers in our sample of all economics of crime and education publications in the next two decades (going from an average of 1 per year in the 2000s to 3 per year in the 2010s) and over 1 in 10 published papers (or 8 per year) in the 2020s.<sup>1</sup> For one subarea of crime economics research, this is quite substantial. This is especially true if one considers the large number of topic areas within the economics of crime field that feature in the publications considered in **Table 1** and, more broadly, in a wider set of publication outlets. Many of the featured areas can be seen in reviews about crime and economic incentives (Draca & Machin 2015), crime and the deterrence effects of the criminal justice system

**Table 1 Publications by decade**

Type of publication	Annualized numbers and shares			
	1990s	2000s	2010s	2020s
Economics of crime publications	6	19	37	76
Crime and education publications	0	1	3	8
Percent share of all economics of crime and education publications	0%	5%	8%	11%

The publication data are sourced from the database maintained by Jennifer Doleac (see <https://jenniferdoleac.com/resources/>). The database includes papers related to crime and the criminal justice system published in 21 general interest and top-field economics journals: *American Economic Review*, *Quarterly Journal of Economics*, *Review of Economic Studies*, *Journal of Political Economy*, *Econometrica*, *Review of Economics and Statistics*, *Journal of the European Economic Association*, *American Economic Journal: Applied*, *American Economic Journal: Policy*, *American Economic Review: Insights*, *Economic Journal*, *Journal of Labor Economics*, *Journal of Public Economics*, *Journal of Law and Economics*, *Journal of Urban Economics*, *Journal of Policy Analysis and Management*, *Journal of Human Resources*, *Journal of Development Economics*, *Journal of Economic History*, *Explorations in Economic History*, and *Journal of Health Economics*. Classification as crime and education publications done by the authors.

<sup>1</sup>Another way of characterizing the rapid rise over time is to consider the timings of references in this review. The review has a reference list comprising 103 items, with 4 from before 2000, 21 dated 2000–2009, 35 dated 2010–2019, and 43 either dated 2020–2024 or forthcoming.

(Chalfin & McCrary 2017), and the economics of crime and the labor market (Hjalmarsson et al. 2024).

One of the rationales for studying the impact of education on crime in economics has a foundational genesis in Becker's (1968) cost-benefit under uncertainty formulation of why individuals commit crime. In that approach [and in the closely related one by Ehrlich (1973)], individuals decide whether or not to engage in crime by assessing whether the expected benefits from crime (i.e., the economic benefits that accrue netting out the probability of being caught) outweigh the expected costs (normally in terms of an opportunity cost). The possible option by which the benefits and costs are assessed is usually the payoff from a risky crime choice (due to the risk of getting caught) as compared to a certainty-equivalent payoff from job earnings in the labor market.

Education can come into this framework because of the (by now well-established) existence of a positive labor market impact of education whereby individuals with higher levels of education and schooling get paid more and get better-quality jobs than those with lower levels (see Card 1999). In the Becker/Ehrlich cost-benefit calculation, a higher earnings payoff from more education will clearly tilt an individual at the margin in the direction of not committing crime.

Education can also impact crime through other routes. One is spending more time in school. This generates the so-called incapacitation effect, the implications of which are discussed in more detail below, which arises from the notion that, while in the classroom, individuals are not able to commit crimes. So, for example, if education policies raise the compulsory school leaving age, then people who may have left school at the prior lower age are not able to do so. If they would have committed crimes, these would be deterred.

Individuals may also have different preferences for valuing the present and the future such that potential future criminals differ in their discount rates [with parallels to decisions about whether to invest in education or not, as discussed by Card (1999)]. More education therefore not only increases economic returns but also may increase a youth's patience and lead them to put more weight on their potential future earnings (see Becker & Mulligan 1997).

Crime experiences, too, either as a perpetrator or as a victim, can impact subsequent education. We discuss evidence studying whether exposure to the criminal justice system as a juvenile has an impact on education, as well as more recent work that studies whether exposure to crime—for example, in neighborhoods where people grow up or by being a victim of crime—also impacts education acquisition.

This reflects a fundamental empirical challenge that underlies the crime–education connection. Much of the recent work in crime economics addresses this head on. Specifically, it is clear that the direction of causation can flow in both ways: either from education to crime or from crime to education. Arguments like those already discussed above can be leveraged to support both. We carefully discuss both possibilities in this review, with the aim of showing what the research credibly says about unraveling the direction of causation.

There are different aspects of the research profile on crime and education that has developed through time, some of which critically link to the conceptual ways in which education might be thought of as impacting crime. For instance, some of the earlier work considers the relationship between adult crime and completed education and schooling. Other work considers not only the quantity of education but also its quality—for example, the differences arising from attending different quality schools or being affected by different education policies.

Some of the work considers criminality while in school. In terms of causality in the opposite direction, it is plausible that criminal experiences may impact subsequent educational achievement, a focus that has received significant attention in the current economics of crime research for both victims and perpetrators of crime. We review what the research says about all of these different means by which crime and education can be causally related.

In this review, we have adopted an approach that categorizes the empirical research on crime and education into four substantial tranches, plus two others that are a little less easy to group together owing to their more heterogeneous nature. For each we have produced a detailed table that discusses the study context, data, research design, methodology, and main findings. The tables for the six respective areas are **Supplemental Tables A.1–A.6**. These are provided for the reader who would like more detail on particular studies that we discuss below. For the four main tranches, we include shortened versions of the longer **Supplemental Tables** in the main text of the review.

The rest of the review proceeds as follows. In Sections 2 to 5, it covers the four broad areas of crime–education research we have grouped the related studies into. Section 2 considers the existing literature on the crime-reducing impact of education and compulsory school attendance. Section 3 discusses the link between incapacitation, productivity, and crime. In Section 4 the focus is on the links between school quality and crime. Section 5 covers the work that considers the reverse causality whereby crime histories and experiences potentially impact subsequent education acquisition. Section 6 summarizes the findings from the remaining two areas that are more heterogeneous in nature. Section 7 concludes.

## 2. CRIME, COMPLETED EDUCATION, AND DROPOUT AGE LAWS

The causal crime and education literature that has emerged in the last two decades represents the first attempt by economists to seriously and systematically assess the extent to which education can impact crime. Prior to this, correlations between crime and education have been studied on occasion by economists and more broadly in other social science disciplines. However, in this work the magnitude and the direction of reported correlations remain very much open to interpretation because of the well-known difficulty in establishing them due to the endogenous nature of individual educational trajectories and the range of feedback effects working through the relationship between crime and education.

The literature that directly assesses the causal nature of the crime–education relation, beginning with Lochner & Moretti (2004), has studied the empirical relationship between adult criminality and levels of completed schooling. In this work, the research question is typically structured to ask whether individuals with different levels of completed schooling are more or less likely to commit crime after completing their schooling careers. The possibility of biased estimates emerging from the endogenous nature of completed education as an independent variable in the crime equation is usually circumvented by comparing the crime and education trajectories of individuals who face different compulsory school age dropout laws.

To more clearly see the logic establishing that education impacts crime and not the other way around, consider the example scenario in which a US state changes its dropout age (DA) in a given year and a second state does not. Suppose that before the change the school DA is 16 in both states, but the first state moves its DA up by one year, to age 17, while the second state keeps the DA at 16. In the first state, individuals leaving school would acquire an extra year of education when the DA is raised compared to others leaving school before the education reform, while in the second state individuals can still leave school at age 16. A comparison of completed education and crime for those affected and not affected can then yield a causal impact of education on crime. As the education policy was not designed with crime reduction in mind, the raising of the school leaving age can be thought of as generating possible crime reductions from education as an unintended consequence, or indirect spillover into crime, from the policy.

Formally then, there are two reduced form empirical equations that relate the two variables of interest—crime,  $C$ , and completed education,  $E$ —to the DA reform variable  $D$ , from which a structural form relationship between  $C$  and  $E$  can be derived. Continuing with the US states

scenario, as proposed by Lochner & Moretti (2004), the respective reduced forms in a bivariate regression setting for education and crime are<sup>2</sup>

$$E = \alpha_1 + \beta_1 D + \varepsilon_1, \quad 1.$$

$$C = \alpha_2 + \beta_2 D + \varepsilon_2. \quad 2.$$

In Equation 1 the reduced form impact of a higher DA on education is  $\beta_1$ , and in Equation 2 the impact on crime is  $\beta_2$  (where  $\varepsilon_1$  and  $\varepsilon_2$  are error terms).

The structural form corresponding to the two reduced forms can be implemented to derive causal estimates as

$$C = \alpha_3 + \beta_3 E + \varepsilon_3. \quad 3.$$

In Equation 3, the causal impact of education on crime is the ratio of the reduced form impacts,  $\beta_3 = \beta_2/\beta_1$ . The estimate of  $\beta_3$  is an instrumental variable estimate where the DA reform variable  $D$  is used as an instrument to predict completed education from the first-stage Equation 1, which then elicits the causal impact of education on crime in Equation 3.

A body of empirical evidence adopting this approach has documented the crime-reducing role of DA laws in the long run, particularly for males. **Table 2** and **Supplemental Table A.1** list 13 studies in this area, ordered by year of publication. Both tables list the same studies, but **Supplemental Table A.1** contains additional details on the study setting, the data, and the research design. The first study in this body of research is the seminal paper by Lochner & Moretti (2004), who use state-level data from the United States to show that greater exposure to compulsory education reduces lifetime incarceration. Lochner & Moretti relate prison, arrest, and self-report crime data to education. They leverage state-level shifts in the US compulsory school leaving age matched to 1960, 1970, and 1980 US Census data; to Uniform Crime Reporting (UCR) arrest data; and to self-reported crime in the National Longitudinal Survey (NLSY). Their census analysis studies incarceration of males aged 20–60. The study shows a strong first stage in which being exposed to an increase in the school DA in the state where one was schooled significantly raises completed years of schooling. In their analysis of arrests, the reduced form shows a significant reduction in subsequent crime for treated birth cohorts, implying that an additional year of schooling reduces state-level arrest rates by at least 11%, with similar effects for violent and property crime. Causal crime reductions from more education emerge from the same research design applied to each of their empirical analyses of census imprisonment, arrest, and self-reported NLSY data.

Machin et al. (2011) use aggregate cohort data to show that the 1972–1973 school leaving age education reform that was enacted in England and Wales, raising the DA from 15 to 16, decreased the risk of lifetime incarceration as it caused a significant reduction in property crime and a nonsignificant reduction in violent crimes. Their analysis explicitly sets up and implements a regression discontinuity design comparing cohorts leaving school in periods immediately adjacent to the policy change, a research approach that also characterizes some of the more recent causal work [notably Bell et al.'s (2022) study of discontinuities from 30 US state DA reforms from 1980 to 2010].

Anderson (2014) uses US county-level data to document that exposure to higher DA laws reduces property and violent crime arrest rates for juveniles aged 16–18, compared to a control

**Supplemental Material** >

<sup>2</sup>Of course, in many empirical applications other control variables are included in such regression specifications, including various fixed effects in panel data type studies and observables that may be correlated with crime and/or education.

Table 2 Literature in economics on the link between crime and education and dropout age laws

Study	Treatment	Causal impact/correlation
Lochner & Moretti (2004)	Educational attainment and school quality	One additional year of schooling leads to 0.1 pp ↓ in incarceration for white men and 0.3–0.5 pp ↓ in incarceration for Black men.
Buonanno & Leonida (2006)	Secondary school attendance	Education, measured as the average years of schooling of the population, is linked with ↓ in crime rate.
Buonanno & Leonida (2009)	Secondary school attendance	Education, measured as the average years of schooling of the population, is linked with ↓ in property crime rate.
Machin et al. (2011)	Secondary school attendance and school qualification	A 10% increase in age of leaving school leads to 2.1% ↓ in crime for males.
Anderson (2014)	Secondary school attendance	Compared with laws establishing DA of 16–17, DA of 18 leads to a 17.2% ↓ in arrest rates, of which a 9.9% ↓ in property crime and a 22.5% ↓ in violent crime arrest rates of youth aged 16–18.
Gilpin & Pennig (2015)	Secondary school attendance	High schools in states that raised their DA law to 18 experienced a 21.4% ↑ in school crimes.
Hjalmarsson et al. (2015)	Educational attainment	One additional year of schooling leads to a 6.7% ↓ in risk of conviction of men and to a 15.5% ↓ in incarceration of men; estimates for women are similar in magnitude but not statistically significant.
Beaton et al. (2017)	Secondary school attendance	Exposure to the DA reform led to a 10.3% ↓ in crime for all 15–21-year-olds, a 10.8% ↓ in crime for males, and a 8.9% ↓ in crime for females.
Bennett (2018)	Upper secondary school completion	Upper secondary school completion leads to a 23 pp ↓ in crime and to a 9.8 pp ↓ in conviction for males, as well as to a 9 pp ↓ in crime and to a 3.2 pp ↓ in conviction for females.
Brilli & Tonello (2018)	Secondary school attendance	A 1 pp increase in enrollment rate leads to a 1.6% ↓ in offending rate among 14-year-olds.
Cano-Urbina & Lochner (2019)	Educational attainment and school quality	One additional year of schooling leads to a 0.04 pp ↓ in incarceration rates for white women and a 0.08 pp ↓ in incarceration rates for Black women.
Bell et al. (2022)	Secondary school attendance	Exposure to the DA reforms leads to a 6.1% log ↓ in arrest rates for young adults.

Abbreviations: DA, dropout age; pp, percentage point.

group of 13–15-year-olds. Anderson’s (2014) analysis of the Youth Risk Behavior Survey data also suggests the potential for delinquency to move from the streets into schools, as stricter DA laws result in young women missing more school out of fear for their safety. Using US school-level survey data to address a similar question, Gilpin & Pennig (2015) show an increase in overall in-school crime in US states that raise their DA to 18, and no effect in states that raise it to 17 (relative to schools in states that do not). Bell et al. (2016) use commuting zone-level data in the United States together with census data to document the negative link between schooling laws and crime, measured by either arrests or incarceration.

Meghir et al. (2012) and Hjalmarsson et al. (2015) were perhaps the first scholars to use micro data to assess the crime-reducing impact of a DA reform. Availability of micro data enables scaling of the reduced form results by the effect of the DA reform on years of schooling and thus the deriving of results that are arguably free from general equilibrium effects that might bias previous estimates (Hjalmarsson et al. 2015). Both studies analyze a schooling reform implemented

gradually in the 1950s and 1960s across Swedish municipalities and show that the increased years of schooling caused by the reform resulted in reduced convictions and criminal activity. Unlike Hjalmarsson et al. (2015), Cano-Urbina & Lochner (2019) find a reduction in female criminality as a result of the DA reforms in the United States. Bell et al. (2022) explore the reasons that increased education generates a reduction in crime. They conclude that a key way in which education generates lasting crime reductions in the lives of individuals is by incapacitating young people at an age when the risk of committing crime is highest. By reducing the risk of crime during teenage years, DA laws have the potential to modify an individual's entire crime-age profile.

Recent studies have generated empirical evidence from other countries that corroborates the conclusion that completed education exerts a lasting crime-reducing effect. In particular, evidence of a lasting crime-reducing effect of DA laws and of increased years of education has appeared also in studies from Australia, Denmark, and Italy. Beaton et al. (2017) show that Queensland's so-called Earning or Learning reform of 2006 led to a 10.3% reduction in crime for all 15–21-year-olds, a 10.8% crime reduction for males, and an 8.9% crime reduction for females; Bennett (2018) shows that upper secondary school completion in Denmark leads to a 23 (9) percentage point reduction in the risk of crime and to a 9.8 (3.2) percentage point reduction in the risk of conviction for males (females). Buonanno & Leonida (2006, 2009) document the negative link between education, measured as the average years of schooling of the population, and property crime rates in Italy. Finally, Brilli & Tonello (2018) present evidence of the crime-reducing effect of education in Italy, showing that a 1 percentage point increase in the enrollment rate leads to a 1.6% reduction in the offending rate among 14-year-olds in Italy.

While the consensus in the existing literature is that a higher number of completed years of education reduces crime in the long run, no study to date of which we are aware has directly examined the impact of DA laws on students who would have stayed on in school regardless of the reform. For these individuals, the prolonged compulsory schooling period may imply an extended period with unruly classmates, and this may generate learning losses, worsened earnings trajectories, and increased risk of criminality.

More broadly, surprisingly little is known about whether and how these reforms alter the school environment. Despite the overall benefits of increased education, including reduced criminality, existing estimates of DA laws do not fully consider the potential displacement of delinquency and violence from the streets into schools, nor the potential additional incidents of violence and bullying into schools. DA laws often rest on a somewhat paternalistic view that juveniles wishing to drop out of school early are actually better-off staying on (Messacar & Oreopoulos 2012). Yet surprisingly little is known about their school experience.

The few studies that exist that document potential negative spillovers in schools from the prolonged incapacitation in school of juveniles who otherwise would have left school at the earliest convenience use self-reported survey data to study in-school delinquent behavior and student victimization (e.g., Anderson 2014, Gilpin & Pennig 2015). While survey data has the obvious benefit of capturing information not usually present in primary source administrative data, self-reported survey data may suffer from measurement error (e.g., since respondents may have different reference points), potential recall biases in self-reported victimization, small and non-representative samples, selective responses, and lack of detailed information about the nature of the crime (Ketel et al. 2020). Moreover, use of self-reported survey data on victimization does not allow the researcher to study the offenders and thus formulate evidence-based policy prescriptions to minimize the potential negative spillovers of DA reforms on the school environment.

In sum, the lasting crime-reducing impact of DA reforms and completed years of education has been documented in a variety of settings, including the United States, United Kingdom, Australia, Sweden, Denmark, and Italy. The consensus is that DA reforms generate a life-lasting reduction

in the risk of committing a criminal offense for the individuals who stayed in school longer due to these policy changes. However, relatively little is known about whether and how these reforms may alter the school environment. We view this as an important omission in the literature and an interesting research venture to undertake, as developing an understanding of the changes these policies may cause to the school environment is in fact necessary to assess the desirability of these reforms.

### 3. INCAPACITATION, PRODUCTIVITY, AND CRIME

A central question that emerges from the findings of a causal impact of education on crime is whether more education from staying longer in school is productive, in Becker's (1968) sense of raising earnings potential, or whether it reflects incapacitation effects from being kept off the streets and not committing crime. Lochner (2004), for instance, illustrated the negative correlation between student achievement and crime using the FBI's UCR and the NLSY of 1979, documenting that approximately 1 in 3 young men in the United States with less than 12 years of schooling earn some form of income from crime, while 24% of male high school graduates not staying in school earned income from crime vis-à-vis 17% of men pursuing college.

One means by which the question of productivity versus incapacitation can in principle be untangled is to look at whether a crime–education link exists while individuals are still at school or whether it only exists in the longer run, as shown in the studies considered in the previous section. It turns out that evidence exists for both channels, as research has aimed to separately identify the two effects. **Table 3** and **Supplemental Table A.2** list 12 studies that look at the incapacitation versus productivity interpretations of the crime-reducing impact of education, with **Supplemental Table A.2** reporting a richer set of details about the reviewed studies.

Evidence of the incapacitation effect of schooling on crime has been presented in a variety of settings by different authors, starting with Jacob & Lefgren (2003) who first documented the contemporaneous reduction in property crime and increase in violence that can occur when school is in session. To circumvent the endogeneity of school attendance in the determination of youth crime, this study exploits exogenous variation in school attendance generated by day-to-day changes in school closures for teacher training purposes in 29 jurisdictions in the United States. Using data from the US National Crime Victimization Survey, it also shows that crimes occurring at school are reported less frequently than those occurring elsewhere. Luallen (2006) presents consistent evidence on the effect of school on the day-to-day propensity of juveniles to commit crime, as it shows that property crime decreases and violent crime increases when juveniles are in school. In this study, unexpected school closures caused by teacher strikes and 22 years of youth arrest data in Washington State are used for the empirical analysis.

Due to data limitations, both Jacob & Lefgren (2003) and Luallen (2006) study the impact of school attendance on contemporaneous crime at the level of the locality. Similarly, and more recently, Berthelon & Kruger (2011) investigate the impact of the length of the school day on crime exploiting a school reform in Chile that lengthened the school day from half to a full day. The analysis shows that an increase by 20 percentage points in the municipal share of full-day high schools leads to a 3.3% reduction in the probability of motherhood in adolescence and to an 11–24% reduction in the youth crime rate. Overall, the consensus in this literature is that the incapacitation effect is a key ingredient behind the crime-reducing effect of schooling, as compulsory school attendance exerts a contemporaneous crime-reducing effect especially for property crime that typically occurs outside school.

On the other hand, another way in which school attendance may reduce the risk of crime is by boosting the productivity of individuals and thus increase their opportunity cost of committing



**Table 3 Literature in economics on the link between crime and education, incapacitation, and productivity**

Study	Treatment	Causal impact/correlation
Jacob & Lefgren (2003)	School attendance	14% ↓ in youth property crime on days when school is in session; 28% ↑ in violent crime on such days.
Lochner (2004)	High school dropout	Roughly 30% (33%) of young men with <10 (≤11) years of schooling earn income from crime; 24% of male high school graduates not staying in school and 17% of men pursuing college earn income from crime.
Heckman et al. (2006)	Boosting cognitive and noncognitive skills	Moving males in the lowest decile of cognitive distribution from the lowest to highest decile of noncognitive distribution substantially ↓ incarceration; moving males in the lowest deciles of both distributions to the highest decile of cognitive distribution only slightly ↓ incarceration.
Luallen (2006)	School attendance	21.4% ↑ in youth crime on days when strikes occur; in particular, 48% ↑ in mischievous crime, 28.8% ↑ in property crime, and 31.5% ↓ in violent crime.
Berthelon & Kruger (2011)	Length of the school day	An increase of 20 pp in the municipal share of full-day high schools leads to a 3.3% ↓ in the probability of motherhood in adolescence and to a 11–24% ↓ in the juvenile crime rate.
Cook & Kang (2016)	DEE	DEE leads to 31.8% ↓ in criminality at age 13–15 and 14% ↑ in serious criminality at age 17–19.
Depew & Eren (2016)	School entry age	Birth after school entry cutoff leads Black females to a 3 pp ↓ in risk of youth crime. IV estimates show that late school entry by 1 year leads Black females to a 3.5 pp ↓ in risk of a youth crime.
Landersø et al. (2017)	DEE	DEE leads to ↓ criminality at all ages until (by) age 19 (22) for boys and at (by) age 15 (19) for girls.
Johnson & Jackson (2019)	Early childhood exposure to investments designed to promote school readiness among disadvantaged children	For poor children exposed to a 10% ↑ in K–12 spending, exposure to Head Start led to 0.59 additional years of education, 14.8 pp ↑ in likelihood to graduate from high school, 17% higher wages, 4.7 pp ↓ in likelihood to be incarcerated, and 12 pp ↓ in likelihood to be poor in adulthood.
Anders et al. (2023)	Early childhood education	Improvements to early childhood education led to 20% reductions in the likelihood of a serious criminal conviction in adulthood.
García et al. (2023)	Long-term benefits of early childhood intervention on disadvantaged children	The intervention led to lasting 0.2–0.4 sd ↑ in the original participants' skills, 10 pp ↑ in likelihood to be married at age 30, \$10,000 ↑ in average annual earnings, 1 pp ↓ in criminality, and 15 pp ↑ in good health. Children of the original participants to the early childhood intervention have 16.9 pp ↑ in likelihood of never being suspended and 25.8 pp ↑ in likelihood of employment, reduced criminality, and better health.
Gray-Lobe et al. (2023)	Public preschool attendance	Preschool enrollment leads to 18% ↑ in college attendance, 9 pp ↑ in SAT test-taking, and 6 pp ↑ in high school graduation. Preschool also leads to 0.17 sd ↑ in disciplinary measures including juvenile incarceration but has no detectable impact on state achievement test scores.

Abbreviations: DEE, delayed entry eligibility; pp, percentage point; SAT, Scholastic Aptitude Test, sd, standard deviation.

crime. Evidence of the productivity effect of schooling and of how this may lead to reduced crime has also been retrieved in a variety of settings and, for the most part, with a focus on early childhood education. In a seminal study, Heckman et al. (2006) used the NLSY of 1979 to show that boosting the skills of males in the lowest decile of cognitive distribution from the lowest to the highest decile of noncognitive distribution substantially reduces the risk of incarceration, while moving the same males in the lowest deciles of both distributions to the highest decile of cognitive distribution only slightly reduces the risk of incarceration.

Building on these findings, more recent research has sought to examine the long-term benefits of early childhood interventions on disadvantaged children in the United States. Johnson & Jackson (2019) focus on Head Start and show that, for poor children exposed to a 10% increase in K-12 spending, exposure to Head Start increased their years of education, their likelihood to graduate from high school, and their wages. For the same children, exposure to Head Start also reduced the risk of incarceration and the risk to be poor as an adult.

García et al. (2023) examine instead the HighScope Perry Preschool Study conducted in Ypsilanti, Michigan, between 1962 and 1967. Their findings show that this initiative generated long-lasting improvements in the skills of the original participants, who appeared more likely to be married at age 30, had \$10,000 of additional average annual earnings, exhibited reduced criminal activity, and seemed to conduct a healthier life. Children of the original participants also seemed to benefit from this program, as they appeared less likely to be suspended in school and more likely to be employed, and they too exhibited reduced criminal activity and better health. Gray-Lobe et al. (2023) study the effects of universal preschool in Boston, Massachusetts, showing that preschool enrollment increases the likelihood of college attendance, Scholastic Aptitude Test (SAT) test-taking, and high school graduation. Preschool is also negatively associated with the likelihood of disciplinary measures, including juvenile incarceration, but has no detectable impact on state achievement test scores. Anders et al. (2023) complement this literature by exploiting the rollout of Head Start and Smart Start in North Carolina and showing that access to improved early childhood education reduces the likelihood of a serious criminal conviction in adulthood by 20%.

Some recent papers have also exploited discontinuous rules in the minimum school entry eligibility to investigate the productivity effect of schooling in early childhood. In particular, Cook & Kang (2016) show evidence from North Carolina that delayed entry eligibility can reduce criminality at age 13–15 by 31.8%. This is consistent with the finding that starting school at an older age leads to a significant academic advantage and thus, arguably, makes schooling more productive (Bedard & Dhuey 2006, Datar 2006, Puhani & Weber 2007, McEwan & Shapiro 2008, Elder & Lubotsky 2009, Crawford et al. 2010, Black et al. 2011, McCrary & Royer 2011). Cunha & Heckman (2008) in fact suggest that starting school at an earlier age may have significant lifetime effects, as it has the potential to alter the entire path of skill acquisition.

However, Cook & Kang (2016) also show that delayed entry eligibility can increase by 14% the risk of engaging in serious criminal activity after reaching the DA, that is, at age 17–19. This is because the DA legislation in North Carolina is defined in terms of age and not grade completion; as a result, delayed entry eligibility causes juveniles to reach the DA almost one year earlier than their counterparts born on the other side of the discontinuous cutoff determining school eligibility. Thus, these juveniles appear more likely to drop out of school before secondary school completion and to commit crime at age 17–19. Landersø et al. (2017) present additional evidence from Denmark that delayed entry eligibility can reduce criminality at all ages until (by) age 19 (22) for boys and at (by) age 15 (19) for girls. Finally, Depew & Eren (2016) present evidence from Louisiana of the importance of being born right after the school entry cutoff, as this leads Black females to a reduced likelihood of committing a juvenile crime. Instrumental

variable estimates also show that late school entry by one year leads Black females to a reduced likelihood of committing a juvenile crime.

#### 4. SCHOOL QUALITY AND CRIME

What is by now a significant body of research, much of which is a very recent development over the past 10 years, explores the mechanisms by which education may lead to lower crime at different stages of the education process. This research covers early age interventions, primary and secondary schooling, and policy changes that alter the school DA. A large literature has also developed at a remarkable rate in the last decade reflecting the importance of the quality and not just the quantity of education in the determination of contemporaneous and future criminality. **Table 4** and **Supplemental Table A.3** list 24 studies that extend the education dimension to cover both quality and quantity and assess its impact on crime both in the short run, when individuals are in school, and in the longer term, once they have finished their compulsory education. **Supplemental Table A.3** contains a fuller set of details on the reviewed studies.

Starting from Gaviria & Raphael (2001), who documented peer group influences in risky behaviors and the correlation between drug use by parents and increased probabilities of drug, alcohol, and tobacco consumption by their children, several studies have documented the importance of the school environment and schooling quality. Cullen et al. (2006) were perhaps the first to exploit admission lotteries into high-achieving schools in Chicago to show that lottery winners feature nearly 60% lower self-reported arrest rates compared with the pool of lottery losers. Deming (2011) exploits a similar lottery experiment in Charlotte-Mecklenburg, North Carolina, to show that random admission into a better-achieving school can lead roughly to a 50% reduction in criminality among high-risk youth relative to lottery losers. Billings et al. (2014) present evidence from a discontinuous school boundary change also in Charlotte-Mecklenburg showing that a 10 percentage point increase in assigned school share minority can cause an 8% increase in arrest and incarceration rates among minority males. Billings & Hoekstra (2023) present evidence from the same setting of Charlotte-Mecklenburg showing that the parents of school peers also matter, as an increase in school peers linked to parental arrest leads to a reduction in school achievement and to an increase in adult arrest rates. Bacher-Hicks et al. (2024) corroborate the evidence on the importance of school quality by showing that attending schools with higher suspension rates can lead to increased arrest and incarceration rates. As far as grade retention is also negatively correlated with the quality of education, Eren et al. (2022) provide a close complement to this finding by showing that grade retention increases the risk of criminal conviction by age 25 in Louisiana. Pope & Zuo (2023) document the link between suspension rates and student performance in Los Angeles.

Consistent evidence has been retrieved over the last 10 years also in other settings within and outside the United States. Dobbie & Fryer (2015) exploit admission lotteries in New York City to show that admission into a high-performing charter school leads to a 10.1 percentage point reduction in the likelihood of teenage pregnancy and to a 4.4 percentage point increase in the risk of male incarceration. McEachin et al. (2020) explore the consequences of charter school attendance in North Carolina, finding that, compared with students who attended a traditional public school in both 8th and 9th grade, charter school entrants faced a reduced risk to commit a crime and to be convicted for a misdemeanor or a felony offense. Huttunen et al. (2023) show that admission of men to oversubscribed secondary schools in Finland can reduce their risk of conviction in a district court by 52% within 10 years after admission.

Reflecting on what constitutes a good school, Jackson et al. (2020) complement this literature by presenting evidence from Chicago of the crime-reducing impact of attending schools with high

Supplemental Material >

**Table 4 Literature in economics on the link between crime and education, school quality, and school quantity**

Study	Treatment	Causal impact/correlation
Gaviria & Raphael (2001)	Peer group influences	Drug use by parents correlated with ↑ probabilities of drug, alcohol, and tobacco consumption by their children by 19.4%, 13%, and 10.3%, respectively.
Cullen et al. (2006)	High-achieving school attendance	Lottery win to high-achieving school leads to nearly 60% ↓ in self-reported arrest rates relative to lottery losers.
Figlio (2006)	High-stakes testing	A 1 sd ↑ in the test window manipulation measure is associated with a 1.2 pp ↑ in the likelihood that a student will attain level 2 or better on the FCAT reading exam and a 1.7 pp ↑ in the likelihood that a student will attain level 2 on the FCAT mathematics exam.
Deming (2011)	Better-achieving school attendance	Lottery win to better-achieving school leads to roughly 50% ↓ in criminality among high-risk youth relative to lottery losers.
Billings et al. (2014)	School share minority	A 10 pp ↑ in assigned school share minority leads to a 8% ↑ in arrest and incarceration among minority males.
Dobbie & Fryer (2015)	High-performing charter school attendance	Lottery win to high-performing charter school leads to 10.1 pp ↓ in teenage pregnancy and 4.4 pp ↓ in male incarceration.
Eren et al. (2017)	Summer school and grade retention	Grade retention is associated with a 3 pp ↑ in the propensity of a student to drop out of school.
Eriksson (2020)	Childhood access to primary schooling	Exposure to a new primary school built as part of the Rosenwald program leads to 1.9 pp ↓ in risk of incarceration.
Jackson et al. (2020)	Attendance of schools with high SED value added	Higher social value added leads to 0.728 pp ↓ in risk of arrest; greater work hard value added leads to 0.766 pp ↓ in risk of arrest; greater test score value added leads to 0.523 pp ↓ in risk of arrest.
McEachin et al. (2020)	Charter school attendance	Compared with students who attended a traditional public school in both 8th and 9th grade, charter school entrants face 0.9 pp ↓ in risk to commit any crime and 0.7 and 0.4 pp ↓ risk to be convicted for a misdemeanor and felony, respectively, off base means of the dependent variables of 3, 0.2, and 1.3 pp.
Barrett et al. (2021)	Student discipline disparities by race and family income	Black (poor) students have 13% (9%) pp ↑ in likelihood to be suspended in a given year compared to white (nonpoor) students.
Jackson (2021)	Single-sex education in low-performing schools	The transition to single-sex education leads to 0.2% sd ↑ in academic achievement 3 years after secondary school entry, 60% ↓ in risk of boys to be arrested by the age of 18, and 40% ↓ in risk of girls to have a live birth by the age of 18.
Eren et al. (2022)	Grade retention	Grade retention leads to 1.05 pp ↑ in the likelihood of conviction by age 25.
Beuermann et al. (2023)	Relation between schools' impact on test scores and their overall impact on students	Schools' impacts on high-stakes tests are weakly related to impacts on arrests, dropout, teen motherhood, and formal labor market participation.
Billings & Hoekstra (2023)	School and neighborhood peers whose parents have been arrested	A 5 pp ↑ in school peers linked to parental arrest leads to 0.016 sd ↓ in school achievement and 5% ↑ in adult arrest rates.
Huttunen et al. (2023)	Secondary education	Admission of men to secondary schools leads to 52% ↓ in risk of conviction in a district court within 10 years after admission compared with men who are not admitted.
Pope & Zuo (2023)	School suspension	10 pp ↓ in suspension rates leads to 0.040 sd ↓ in math test scores, 0.065 sd ↓ in English test scores, 0.07 sd ↓ in grade point averages, and 15.1% ↑ in absences.

(Continued)

Table 4 (Continued)

Study	Treatment	Causal impact/correlation
Bacher-Hicks et al. (2024)	School suspension	1 sd ↑ in suspension effect leads to 17% ↑ in arrest and 20% ↑ in incarceration.
Baron et al. (2024)	Public school funding	10% additional operating expenditure during elementary school leads to 15% ↓ in likelihood to be arrested in adulthood.
Golberstein et al. (2024)	School-based mental health services	School-based mental health services do not seem to affect average standardized test scores but lead to ~10% ↓ in the risk of out-of-school suspension and to 25% ↓ in the risk of juvenile justice involvement.
Jordan et al. (2024)	Racial differences in academic outcomes and neighborhood quality during childhood	Moving a Black male 8th-grade student from a 10th to a 90th percentile school in the distribution of school effectiveness at promoting on-time matriculation from 8th to 9th grade leads to over 5 pp ↓ in future felony arraignment rates and to over 4 pp ↓ in future prison admission rates.
Liu et al. (2024)	Racial disparities in exclusionary discipline	Following fights between Black and white students, Black students are 2 pp (67%) more likely to be suspended than white students involved in the exact same incident.
Benson et al. (2025)	Time with teachers and in school	Eligibility to enroll in kindergarten at age 5 leads to 5–10% ↑ in number of investigated reports for children aged 5.

Abbreviations: FCAT, Florida Comprehensive Assessment Test; pp, percentage point; sd, standard deviation.

socioemotional development value added. In particular, this study shows that higher social value added, greater work hard value added, and greater test score value added lead to reduced risk of arrest. By way of contrast, Beuermann et al. (2023) show that schools' impacts on high-stakes tests are weakly related to impacts on arrest, dropout, teen motherhood, and formal labor market participation rates. Golberstein et al. (2024) also show that school-based mental health services do not seem to affect average standardized test scores but lead to an approximate 10% reduction in the risk of out-of-school suspension and to a 25% reduction in the risk of youth justice involvement. Jackson (2021) suggests that the conversion of low-performing schools from coeducational to single-sex schools may generate benefits to students, as the policy experiment from Trinidad and Tobago he examines indicates that academic achievement 3 years after secondary school entry improved, the risk of boys to be arrested by the age of 18 decreased by 60%, and the risk of girls to have a live birth by the age of 18 decreased by 40%.

Jackson et al. (2024) further examine what students are most likely to benefit from by attending better schools. Their findings indicate that, for students in the bottom (top) decile of the distribution of educational advantage, attending a school at the 85th percentile of the effectiveness distribution vis-à-vis a school in the median percentile is associated with a 3.8 (0.5) percentage point increase in the likelihood of high school graduation, a 3.6 (1.5) percentage point increase in the likelihood of going to college, and a 2.1 (0.22) percentage point reduction in the risk of arrest. Jordan et al. (2024) document that moving a Black male 8th-grade student in Chicago from a 10th to a 90th percentile school in the distribution of school effectiveness at promoting on-time matriculation from 8th to 9th grade decreases future felony arraignment rates by more than 5 percentage points and reduces future prison admission rates by more than 4 percentage points.

Recent studies have turned their attention to the importance of the availability of schools in early childhood and primary school age, which may of course affect both the quantity and the quality of the education received by a pupil. Eriksson (2020) exploits the Rosenwald program, an early-twentieth-century project aimed at constructing schools for African American children

in the US South, to study the crime-reducing effect of childhood access to primary schooling. The findings indicate that exposure to a new primary school built as part of the Rosenwald program reduced the risk of incarceration. Benson et al. (2025) document that eligibility to enroll in kindergarten at age 5 in the United States leads to 5–10% greater counts of investigated reports for children aged 5. Baron et al. (2024) also show that greater operating expenditures in elementary schools in Michigan generate reduced arrest rates in adulthood.

Finally, a further dimension of school quality that is examined in this literature concerns the strategic use of discipline sanctions and discrimination by school principals toward low-performing students and ethnic minorities. Figlio's (2006) was perhaps the first study to focus on this dimension of school quality as he presents evidence from Florida that, for the same acts of misconduct, low-performing students receive harsher sentences during periods of high-stakes exams. Figlio (2006) also shows that greater manipulation of aggregate school-level results is associated with a higher likelihood that a student will attain level 2 or better on the Florida Comprehensive Assessment Test (FCAT) reading exam and a higher likelihood that a student will attain level 2 on the FCAT mathematics exam. More recently, Barrett et al. (2021) and Liu et al. (2024) have shown that, in Louisiana and in California, respectively, Black students are 13 percentage points and 67% more likely to be suspended than white students involved in the exact same incidents.

## 5. THE IMPACT OF CRIME ON EDUCATION

All the literature reviewed so far considers the effect of education acquisition on the crime histories and experiences of individuals. However, causation may also go in the opposite direction, as crime histories and experiences may potentially impact subsequent education acquisition. **Table 5** and, with a greater level of detail, **Supplemental Table A.4** list 16 studies that focus on the impact of crime exposure of various kinds, ranging from being arrested to crime victimization, on subsequent education acquisition.

Harlow (2003) shows that, in the United States, 40% of individuals without a high school diploma and 45% of individuals with a General Educational Development (GED) diploma had prior youth sentences; in contrast, only 26% of individuals with a high school diploma and 21% of those with some college experience display some prior youth sentences, suggesting that youth sentences might affect the subsequent acquisition of education. However, the first causal evidence on this was provided by Hjalmarsson (2008), who showed that incarceration in the United States leads to a sizeable reduction in the likelihood of graduation. Similarly, Aizer & Doyle (2015) also show evidence from Chicago of the negative impact of youth incarceration on the likelihood of high school graduation and its positive impact on the risk of adult incarceration. Eren & Mocan (2021) coherently show that juvenile incarceration can increase the probability of adult conviction for a drug offense, while they find null effects for violence. Arteaga (2023) shows that parental incarceration may actually improve the student performance of children.

Subsequent studies have shifted away from offenders and focused on the impact of crime victimization on the acquisition of education. Brück et al. (2019) show that exposure to the Israeli–Palestinian conflict reduced the probability of students passing the final exam, their total test scores, and their probability of being admitted to university. Michaelsen & Salardi (2020) present evidence from Mexico on the detrimental effect of exposure to homicides in the week prior to exams on student test scores, while Ang (2021) shows evidence from Los Angeles on the detrimental effects of exposure to police violence on Grade Point Average (GPA) scores, emotional welfare, high school completion, and college enrollment. González & Prem (2024) also show the harmful effects of police killings on students and classmates of victims in Chile. Koppensteiner & Menezes

**Table 5 Literature in economics on the impact of crime on education**

Study	Treatment	Causal Impact / Correlation
Harlow (2003)	Education achievement of inmates	Inmates' education links with ↓ youth sentencing, as roughly 40% without high school diploma, 45% with a GED, 26% with a high school diploma, and 21% with some college had prior youth sentences either to a facility or to probation.
Hjalmarsson (2008)	Arrest, charge, conviction, and incarceration at age 16 or younger	When correcting for unobservables, incarcerations still lead to ~13 pp ↓ in likelihood of graduation.
Carrell & Hoekstra (2010)	Exposure to children from troubled families	Adding one more troubled boy peer to a classroom of 20 students leads to an ~2 pp (1/15 sd) ↓ in boys' test scores and to a 40% ↑ in the number of disciplinary infractions committed by boys.
Aizer & Doyle (2015)	Youth incarceration	Youth incarceration leads to 13 pp ↓ in high school graduation and 23 pp ↑ in adult incarceration.
Brown & Velásquez (2017)	Drug-related violence	Increased local violence leads to 0.3 fewer years of education, 8 pp ↓ in the likelihood of compulsory school completion, and ↑ likelihood of employment.
Carrell et al. (2018)	Exposure to a disruptive peer in elementary school	Exposure to a disruptive peer in classes of 25 in elementary school leads to 3% ↓ in earnings at age 24–28.
Brück et al. (2019)	Effect of the Israeli–Palestinian conflict on education outcomes	The conflict leads to ↓ probability of passing the final exam, ↓ total test scores, and ↓ probability of being admitted to university.
Michaelsen & Salardi (2020)	Exposure to violence	Exposure to at least three homicides within a 2-km radius in the week immediately prior to exams leads to 0.1 sd ↓ in test scores.
Ang (2021)	Police killings	Exposure to police violence leads to 0.04 point ↓ in GPA, 15% ↑ in incidence of emotional disturbance, 3.5% ↓ in rates of high school completion, and 2.5% ↓ in college enrollment.
Eren & Mocan (2021)	Impact of juvenile punishment on adult criminal recidivism and high school completion	Juvenile punishment has a negative effect on high school completion for earlier cohorts but no impact on later cohorts. Juvenile incarceration leads to 27 pp ↑ in the probability of adult conviction for a drug offense, null effect for violence.
Koppensteiner & Menezes (2021)	Effect of exposure to homicides around schools and students' residences and on way to school	Violence leads to 5% sd ↓ in test scores and 20% ↑ in dropout rates.
Arteaga (2023)	Parental incarceration	Parental incarceration leads to 0.78 more years in educational attainment for children of convicted parents.
Padilla-Romo & Peluffo (2023)	Out-migration from violence-affected areas and peer exposure to violence	Adding a new peer who was exposed to local violence to a class of 20 students leads to a 2% sd ↓ in incumbents' academic performance.
González & Prem (2024)	Police violence	Police killings lead to 7 pp ↓ in the probability that the schoolmates of the victim skip school in protest days, 13 pp ↑ in the likelihood to participate in a student-led boycott, and 29 pp ↓ in the chance of taking an exam to access higher education.
Levine & McKnight (2024)	High-fatality school shootings	High-fatality school shooting at Sandy Hook (Parkland) led to 0.10 sd ↓ in math test scores (0.37 sd ↓ in US history scores) and 0.13 sd ↓ in ELA test scores (0.51 sd ↓ in geometry scores) in grades 3–8; to 0.22 sd ↓ in math test scores and 0.13 sd ↓ in ELA test scores in grades 3–4; and to 1.9 pp ↑ in risk of chronic absenteeism. The Columbine shooting led to ↑ 7.8 suicides and ↑ 7.5 accidental deaths among male survivors by age 29.
Sarzosa (2024)	Bullying victimization	Victimization leads to 40% sd ↓ in current skill levels for the average child, and this skill depletion leads to 34% ↑ in the likelihood to experience bullying again.

Abbreviations: ELA, English Language Arts; GED, General Educational Development; GPA, Grade Point Average; pp, percentage point; sd, standard deviation.



(2021) show that also exposure to other forms of homicides (i.e., not police killings) on the way to school in São Paulo, Brazil, causes detrimental effects on students' performance and increases their risk of school dropout.

A final set of studies also investigates the effects of school peers who were exposed to violence in early childhood on the risk of youth criminality. In particular, Carrell & Hoekstra (2010) were the first to show that one more troubled boy peer in a class of 20 students may significantly reduce boys' test scores and it may significantly increase their count of disciplinary infractions. Padilla-Romo & Peluffo (2023) show consistent evidence of similar effects in Mexico. Carrell et al. (2018) complement these studies by focusing on the long-run effects of disruptive peers, and they show that exposure to a disruptive peer in a class of 25 students in elementary school can lead to a 3% reduction in earnings at age 24–28. Sarzosa (2024) shows that bullying victimization can cause a significant reduction in current skill levels for the average child, and this skill depletion may increase by 34% the likelihood to experience bullying again. Levine & McKnight (2024) also document the lasting detrimental impact of high-fatality school shootings.

In sum, strong evidence appears of how both criminal activity and criminal victimization can negatively affect student performance and education acquisition. However, surprisingly little evidence exists to date on the long-run effects of exposure to violence on the professional trajectories of individuals. Little evidence also appears on whether, how, and why males and females might be affected differently by exposure to crime. Finally, relatively little evidence appears on the inter-generational effects of criminal victimization on the human capital acquisition and social mobility of children. These appear as promising routes for future research.

## 6. OTHER CRIME–EDUCATION RESEARCH

The focus so far has been on what we identified as the four main tranches of research that could be classified together, which means we have not fully covered all of the research in the area. Indeed, the list of published papers assembled by Jennifer Doleac (see <https://jenniferdoleac.com/resources/>) that we used to compile the numbers in **Table 1** does have more articles that are not easily classifiable into the four tranches considered so far. There are 20 more publications, some of which are generally about crime policies but also feature some discussions of education (sometimes a little more peripherally than the material covered in Sections 2 to 5) while others are a miscellaneous set of papers considering a much more heterogeneous range of questions in a wide range of contexts. These are listed in **Supplemental Tables A.5** and **A.6**, which cover additional crime–education aspects.

**Supplemental Table A.5** lists 14 papers that study policies that aimed to boost skills, reduce criminality, or a combination of the two. As such, while we do not view these papers as part of the four tranches discussed before, we do view them as part of the literature on the link between education and crime. One takeaway that emerges from this review is that programs targeting behavioral issues among juveniles and keeping them busy have been found to be very effective (Heller et al. 2017, Gulesci et al. 2021, Heller 2022). Some papers have also documented the effectiveness of the combination of mixed interventions that include both behavioral interventions and cash transfers (see Sabates & Feinstein 2008, Blattman et al. 2017). Dustmann et al. (2024) also show the important consequences of removing financial transfers to refugees and their children.

Some other papers have evaluated a whole range of initiatives to improve the level of safety of the school environment (Owens 2017, Anderson & Sabia 2018, Weisburst 2019, Rees et al. 2022, Sorensen et al. 2023). Other programs related with education and crime that appear in the recent literature include the parental language training of refugees (Foged et al. 2023), the opening of



women's justice centers (Sviatschi & Trako 2024), and prison rehabilitation programs (Arbour et al. 2024).<sup>3</sup>

## 7. CONCLUSION

The empirical study of the connections between crime and education has been one of the key research areas featured in the upsurge of published research and interest in the economics of crime that has occurred over the past two decades. Much has been learned in this period about the causal crime-reducing impact of education, the means by which education-induced criminality reductions come about through both qualitative and quantitative aspects of education, and the circumstances in which crime experiences can act to hinder education acquisition. This is a rapidly growing economic research area, and we expect more research to come in this field as methodological developments, data innovations, and policy interests will likely drive more researchers to probe deeper into the relationship between crime and education.

## DISCLOSURE STATEMENT

The authors are not aware of any affiliations, memberships, funding, or financial holdings that might be perceived as affecting the objectivity of this review.

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<sup>3</sup>A further six papers covering miscellaneous crime–education issues that we do not include in the groupings in Tables 2–5 and in **Supplemental Tables A.1–A.5** are shown for completeness in **Supplemental Table A.6**.

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