Additionally, the results show that children at the bottom of the educational attainment distribution are affected more if fathers are criminally involved, while children at the top of the educational attainment distribution are affected more if their mothers are criminally involved. Furthermore, the negative effect of having criminal parents is more pronounced if parents were convicted rather than only arrested. This is also in line with evidence on the individual level: more serious criminal involvement has a substantially stronger negative link to educational attainment than less serious criminal behavior (see Chapter 4).

The mechanisms behind the negative effect of criminal involvement of parents on education of their children are not clear. It is possible that they operate through lower investment into skill development of children due to parents’ interactions with criminal justice or because criminally involved parents are less inclined to motivate and invest time and effort in the education of their children.

6.2 Policy implications and valorization of the research findings

The findings on the relationship between youth crime and education presented in this dissertation can be interesting for policy makers. The findings, in general, suggest that education and criminal behavior of young people should be treated as linked processes. Below, we identify and discuss our main policy implications and valorization of our research findings.

1) Reduction of youth crime can be achieved through effective policies that improve the educational outcomes of young people

The literature that shows a negative effect of educational attainment and school attendance on criminal behavior of young people suggests that prevention of low educational outcomes among young people can decrease youth crime (Chapter 2).
6. General conclusions

Therefore, policy makers may consider investing in education as a tool to prevent and reduce criminal behavior among young people. Evidence on the programs that simultaneously affect educational outcomes and criminal behavior of young people suggests that integrated interventions can address both low educational attainment and criminal involvement of young people in a more effective and efficient way than separate interventions for youth crime and education. The benefits of such programs can be long-lasting considering that there is also a causal link between education and criminal involvement of adults.

2) Evidence on common factors that underlie early criminal involvement and educational outcomes suggests that there is a need to establish interventions that simultaneously address the causes of youth crime and lower educational outcomes.

The factors that underlie criminal behavior and the factors that underlie poor educational outcomes strongly overlap. This implies that addressing them has the potential to simultaneously affect both criminal behavior and educational performance. We find that school environment characteristics play a relatively small role in the relationship between education and youth crime compared to the role of family-specific characteristics (Chapter 3). The findings from Chapter 5 on the negative role of criminal involvement of parents for the educational attainment of their children further highlight the importance of the family environment in shaping the educational careers of children, and likely in determining criminal behavior outcomes as well, given the empirical evidence on the intergenerational transmission of criminal participation (Chapter 5). Together this suggests that improving the family environment, especially in the early years, or compensating for such adverse environment through other investments (financial, but also in the form of time and effort) presents a promising pathway towards improved long-run outcomes in education and reduced participation in crime.
3) **Intervention programs for socio-economically disadvantaged and at-risk adolescents should be evaluated with respect to their effects on a complete system of life-time outcomes.**

The positive effects of Halt on early school leaving and years of education (Chapter 4) suggest that intervention programs aimed at reducing the criminal involvement of juveniles can have positive spill-over effects on other important outcomes, in particular education. Therefore, conclusions on program effectiveness should not be based only on the effects of the program for one single dimension (i.e. recidivism). This conclusion is in line with previous evidence on other programs, for example the Perry Preschool Program. The Perry Preschool Program did not improve the IQ’s of children as it was intended to do, but still achieved large long-run improvements, in terms of educational attainment, employment, and reduced criminal behavior, through changes in non-cognitive skills. Multiple previous studies have shown that successful intervention programs can affect both criminal behavior and education outcomes of young people. Therefore, educational benefits should not be ignored when criminal intervention programs are evaluated, and vice versa. It is also important to analyze the effectiveness of intervention programs with respect to other lifetime outcomes.

4) **Policies that aim to provide better educational opportunities for children of criminally involved parents are needed.**

Evidence from our empirical study (Chapter 5) shows that children with criminally involved parents are identified as a group with a higher risk of having poor educational outcomes. The poor educational outcomes of these children go beyond the fact that they grow up in an environment with less educated parents, who also have lower income and live in poorer neighborhoods. Having criminally involved parents provides an isolated extra risk in relation to low educational performance.
6. General conclusions

This underlines an extra need for designing policies that aim to increase the level of education of children whose parents were criminally involved, for example, by providing these children with a more stimulating development. It also underlines how improvements in one outcome can accumulate gains over time, not only for one specific person but also from one generation to the next.

6.3 Limitations and suggestions for further research

The findings of this dissertation provide a comprehensive picture of the relationship between both education and youth crime, and on the role of ‘third variables’ that relate to both outcomes. The general shortage of experimental settings and exogenous variations with respect to criminal activity and educational attainment makes it challenging to identify the true causal effects between education and youth crime. In this dissertation, we have addressed the problem of endogeneity and reverse causality by using different econometric techniques and relying on a randomized control trial. We acknowledge that these methods and the data we have used have some limitations.

In Chapter 3, we have addressed unobservable heterogeneity by using sibling and twin fixed effects estimates. Unfortunately, the data do not allow us to identifying identical twins which would have allowed us to control for a larger share of unobserved heterogeneity. In Chapter 4, we use experimental data and we are able to find treatment effects of the restorative justice program Halt versus a control group that has not received any punishment. The settings of the Halt experiment do not allow us to examine the effect of the restorative justice program Halt versus traditional juvenile justice (i.e. prosecution by the public prosecutor, detention). In Chapter 5, in addition to the matching approach, we have used a method that addresses the potential effect of unobservable heterogeneity in the relationship between criminally involved parents and the education of their children, which produces an estimated effect that lies in the particular range. This method however
does not allow us to provide an exact point estimate of the causal effect. Future studies can contribute to this research by overcoming these limitations.

Future research can also further investigate the mechanisms that are behind the relationship between youth crime and education. Assessing the heterogeneity in the relationship between youth crime and education by type of criminal behavior can be another direction for future research. Furthermore, additional evidence is needed on what specific components of intervention programs are the most effective in improving education and criminal behavior outcomes, for example by providing experimental variation in program components. Addressing all these issues can provide more precise policy recommendations with respect to what types of investments in children and adolescents should be made in order to prevent them from obtaining low educational outcomes and becoming involved in criminal behavior.