



AUTUMN 2019

# PERCSPECTIVES ON RESEARCH

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## SCHOOLS, NEIGHBORHOODS, AND THE LONG-RUN EFFECT OF CRIME-PRONE PEERS

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The experiences we have as children help to mold and shape us into the adults we are today. In hindsight, even some of our parents' concerns – especially the concern of who we spent time with – now seems well founded. A large and growing body of research is devoted to the study of how childhood peers shape outcomes. At the same time, another area of research focuses on the factors that contribute to crime. In working paper 1909, PERC Rex Grey Professor Mark Hoekstra and coauthor Stephen B. Billings examine the importance of school versus neighborhood peers on adult crime.

Previous work on childhood peer effects primarily studied the effect of school peers, and in doing so focused on academic and behavioral outcomes measured in school. At the same time, a separate literature has documented the effects of neighborhoods on later life outcomes. However, little is known about how school peers affect crime in adulthood, or how important school peers are relative to neighborhood peers. This is the first paper to examine how adult crime is shaped by exposure to early childhood peers in both the school and neighborhood, separate from other aspects of neighborhood quality.

The purpose of this paper is twofold. First, the authors document the impact of school and neighborhood peers on criminal behavior as adults. Second, the authors assess the relative importance of neighborhood and school peers, which is typically difficult due to the large overlap between the two groups. They do so using administrative school records from the largest county in North Carolina linked to juvenile and adult arrest records. These data are used to identify children whose parent had been arrested at least once during elementary school.

It is well-established in the crime literature that children of criminal parents are significantly more

likely to commit crimes. Prior research shows that children with criminal fathers are more than twice as likely to have a criminal conviction themselves. Unsurprisingly, the authors document a similar relationship between the misbehavior and adult crime of a child and the criminality of the parent using their data, even after controlling for school and neighborhood effects and other factors. In this analysis, these children are classified as crime-prone peers.

This study asks whether exposure to these peers – who are at risk for future criminal activity for a reason separate from the other children in the school or neighborhood – affects outcomes. The analysis compares children whose age group in a given school or neighborhood has a distinctively high or low proportion of peers linked to an arrested parent. These data are then used to estimate and compare the magnitudes of school and neighborhood peer effects. Then, direct tests establish whether these outcomes are shaped by peers in one's school but not neighborhood, peers in one's neighborhood but not school, or peers in one's school and neighborhood.

Results indicate that exposure to crime-prone peers has large and significant effects on adult

“These findings highlight the importance of childhood peers in shaping socially deviant behavior years later, even into adulthood.”

crime. For 19-21 year-olds, estimates show that a five percentage point increase in the share of crime-prone school peers results in a 6.5 percent increase in the probability of being arrested, and a 4.5 percent increase in the number of days incarcerated. Since these adults have already left school, these results imply significant long-run implications of exposure to crime during childhood. This effect is driven primarily by exposure to crime-prone peers in school rather than in one's neighborhood. These findings suggest that while exposure to crime-prone neighborhood peers matters, those effects seem to

be caused by neighborhood peers who also attend one's same school.

This paper documents how exposure to crime-prone peers during childhood leads to long-run effects on adult crime. It also demonstrates the relative importance of school peers, rather than neighborhood peers, in shaping long-run outcomes. This pattern persists even into adulthood, when the individuals are no longer in school. These results provide evidence that the peers children are surrounded by—especially in schools—can lead to long-run increases in socially costly behavior.

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## THE LONG RUN EFFECTS OF DE JURE DISCRIMINATION IN THE CREDIT MARKET: HOW REDLINING INCREASED CRIME

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Crime in the United States is a hot-button issue for cities and states alike, although its far-reaching effects are not evenly shared across racial and ethnic categories. Households in predominantly Black and Hispanic neighborhoods are much more likely to experience crime victimizations than households in mostly White neighborhoods. Is there a historical cause behind these inequalities in crime? In PERC working paper 1910, former PERC Graduate Student Fellow John Anders studies how Federal housing policies created in the wake of the Great Depression increased present-day crime levels in cities across the nation.

Before the Great Depression, home mortgages looked very different than they do today. Loans were neither amortized nor federally insured and often required down payments of 30% or more. To lower their risks, lenders offered home loans of short durations and loan terms were renegotiated every 5 years, subjecting the would-be homeowner to fluctuating interest rates. As the Great Depression hit, the loan market shrank even further as banks sought lower-risk investments. To stabilize the loan market, a federal agency called the Home Owner's Loan Corporation (HOLC) was formed. The HOLC bought billions of dollars of troubled mortgages on the brink of foreclosure and renegotiated loans for 15 to 20 year durations with uniform, amortized loan schedules. Nearly 40% of eligible Americans sought HOLC loan assistance.

To handle this large volume of loans, the HOLC

created risk assessment maps of 239 cities with populations of typically 40,000 or more residents. The HOLC divided each city into neighborhoods and hired local real estate agents to survey each neighborhood. Survey criteria included basic housing characteristics like home value and age, construction type and rental values. They also included more controversial criteria, such as which races and ethnicities were more advantageous for a specific neighborhood. The resulting maps were then assigned a color-coded rating with green as the highest grade and which represented the lowest loan risk, while red held the lowest grade and represented the highest level of risk. These Residential Security Maps were used not only by HOLC, but also by other lending institutions like the Federal Housing Authority and private banks to assess home mortgage risk for nearly thirty years until they became illegal due to the Fair Housing Act of 1968. Due to the maps' controversial criteria concerning which races and ethnicities were advantageous to a neighborhood, the term 'redlining' has come to denote the practice of credit-market discrimination on the basis of neighborhood characteristics such as racial demographics, rather than individual loan-applicant credit-worthiness.

There already exists a large body of work that explores how housing policy in the 1930s may have shaped today's neighborhoods. Prior research shows that homes located just across the color line of a lower graded area have lower home values than their higher color-coded neighbors decades after the

The lasting harm done by redlining further underscores the importance of ensuring that there exists a non-discriminatory credit market.

use of 'redline' maps were made illegal. Other studies identify the effects attributable to redlining maps on racial composition and housing development and find that being in lower-graded areas increased racial segregation through at least 1970, with some effects continuing to the present. Other work has shown that increased racial segregation is associated with lower educational attainment for Blacks, which, in turn, has been linked to an increase in crime victimizations.

This paper makes several new contributions to this literature. This is the first paper to show the causal effect of redlining on present-day crime, as well as the first to show that this effect on crime comes through increases in racial segregation, decreases in Black educational attainment as well as harm to housing markets. Overall, this research presents a labor market narrative whereby restricting credit-access by race increased racial segregation, which harmed local educational attainment, which, in turn, influenced job market outcomes and altered the likelihood of criminal victimization by race.

To determine the effects of redlining on crime and other outcomes, the paper uses a regression discontinuity model: cities with more than 40,000 residents were almost guaranteed to be redline mapped while cities with less than this number of residents were usually not mapped. By comparing cities with just over and slightly less than 40,000 people, this allows the author to identify the causal effect of the policy.

The paper finds that both Black and Hispanic crime victimizations increased in redline-mapped areas, with Black crime victimizations almost doubling in number. Although the effects of redline mapping peaked just prior to the passing of the Fair Housing Act and have since declined, the effects

persist today. The paper also finds that one channel through which redline mapping practices increased crime was through increasing racial segregation. In comparing cities across the population threshold, there was no difference in racial segregation before the implementation of redline-mapping, yet a 24 percent increase in racial segregation (as measured by the Black-White Dissimilarity Index) after redline-mapping. These estimates build on an existing body of evidence that shows that grouping together individuals who are at a high risk of committing crime increases the overall level of crime.

Another channel through which redline mapping practices increased crime was through decreasing educational attainment. Prior to the use of HOLC maps, there were no significant differences in education levels in the selected cities around the 40,000 population threshold. After the maps were distributed, findings show that Black individuals were 4.4 percentage points less likely to finish high school and 5.3 percentage points less likely to attend some college due to redlining. Redline mapping practices also increased crime by causing harm to housing markets. The paper finds that redline mapping practices increased home vacancies and decreased home ownership rates: home vacancies increased by 5 percentage points, while both the number of underwritten mortgages and monthly rental rates decreased, by 7 percentage points and \$121, respectively.

Overall, this paper shows that Federal Housing policies following the Great Depression had a lasting influence on present-day crime levels. While the nature of the variation does not allow the paper to single out one channel through which redlining increased crime, the evidence in this paper suggests a straightforward labor market story: restricting credit-access by race increased racial segregation, which harmed local educational attainment, which, in turn, influenced job market outcomes and changed the likelihood of criminal perpetration and victimization by race.

These results demonstrate how one federal policy radically altered the course of development for hundreds of cities by placing them on divergent paths in terms of housing, education and crime. Future policies aimed at reducing crime could target the channels through which redlining increased crime, specifically policies that reduce racial segregation and improve educational attainment.



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