



**The author(s) shown below used Federal funding provided by the U.S. Department of Justice to prepare the following resource:**

**Document Title: Making Schools Safer and/or Creating a Pipeline to Prison: A Study of North Carolina Schools**

**Author(s): Lucy Sorensen, Ph.D.; Shawn Bushway, Ph.D.**

**Document Number: 306633**

**Date Received: 5/2023**

**Award Number: 2017-CK-BX-0006**

**This resource has not been published by the U.S. Department of Justice. This resource is being made publically available through the Office of Justice Programs' National Criminal Justice Reference Service.**

**Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.**

**Final Report Cover Page**

**Federal Agency:** National Institute of Justice

**Federal Grant Number:** 2017-CK-BX-0006

**Project Title:** Making Schools Safer and/or Creating a Pipeline to Prison: A Study of North Carolina Schools

**PI:**

Lucy Sorensen, Ph.D., Assistant Professor of Public Administration and Policy  
lsorensen@albany.edu 518-442-5235

**Co-PI:**

Shawn Bushway, Ph.D., Senior Policy Researcher. RAND Corporation.  
[sbushway@rand.org](mailto:sbushway@rand.org) 412-682-2300 X4232

**Submission Date:** June 28, 2021

**DUNS Number:** [REDACTED]

**EIN Number:** [REDACTED]

**Recipient:**

Research Foundation of State University of New York, University Hall 307  
1400 Washington Avenue  
University at Albany  
Albany, NY 12222

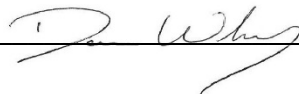
**Recipient Account Number:**

**Grant Period:** January 1, 2018- December 31, 2020

**Reporting Period End Date:** Jun 30, 2021

**Award Amount:** \$498,265

**Submitting Official**



**Final Report**  
**06/30/2021**

**2017-CK-BX-0006 "Making Schools Safer and/or Creating a Pipeline to Prison: A Study of North Carolina Schools."**

**1. Project summary**

According to former National Institute of Justice director John Laub the “two-fold challenge for schools is to create a healthy and safe learning environment for all students and figure out ways to discipline misbehavior while keeping kids engaged in school (Laub, 2014:7).” This proposal is centered on this apparent tension between keeping schools safe and keeping students attached to school. The project will use unique comprehensive administrative data from the North Carolina public school system available through the North Carolina Education Research Data Center (NCERDC). This dataset will be linked with juvenile court record data and publicly-available data from the North Carolina adult criminal justice system, creating the first dataset linking administrative information from the same individuals in both school disciplinary records and the juvenile and adult criminal justice systems. The ultimate goal is to determine if different policy choices by schools causally decrease rates of in-school violence in the short run and/or increase rates of conviction and incarceration in the long term.

**Goals and objectives**

The main objective of this project is to identify if different policy choices by schools causally decrease rates of in-school violence in the short run and/or increase rates of conviction and incarceration in the long term. We are also interested in the impact of these policies on other outcomes, including student disciplinary consequences and educational achievement and attainment.

**Research questions**

In this project, we ask three primary research questions in the context of public middle schools in the state of North Carolina:

1. What are the effects of the presence of School Resource Officers (SROs) on short-term outcomes such as school safety and student disciplinary incidents? What are the effects on long-term outcomes such as high school graduation and involvement with the juvenile or adult criminal justice systems?
2. Principals have a great deal of discretion in the manner they respond to disciplinary incidents. What is the effect of having a middle school principal with stricter or more lenient disciplinary practices on short- and long-term student outcomes?
3. How do the effects of SROs or school principal disciplinary practices vary by school context and student characteristics, including the race or ethnicity of the student?

In addition to establishing the above causal links, the project aims to descriptively:

- Explore individual trajectories within the disciplinary system of the North Carolina public school system.

- Assess the degree to which individuals in the North Carolina adult criminal justice system had prior experiences with the disciplinary system of the North Carolina public school system.

## **Research methods**

To conduct this research, we build a unique individual-level longitudinal dataset by linking public school disciplinary referral records to juvenile court records and adult conviction and incarceration records. Criminal justice data came from the North Carolina Department of Public Safety (NC DPS), and education data came from the North Carolina Education Research Data Center (NCERDC). Our data contains adult convictions and incarceration data between 1972 to 2016, school disciplinary data between 2001 and 2016, and juvenile complaints data between 2005 and 2011. This matching of individuals across administrative data systems was performed by the NCERDC using an algorithm that relies on identifying information such as name, birth date, county of birth, gender, and race/ethnicity. NCERDC then provided us with deidentified individual linkages.

The SRO paper and principals paper use distinct –though similar—analytical datasets and analytical methods. For the SRO question, we collected Annual Census Reports of School Resource Officers in North Carolina between the 2004-05 and 2005-09 school years from which we constructed a school-level indicator of SRO coverage of each middle school in each year. We then used a series of OLS, Poisson, and negative binomial regressions (depending on the distribution of each outcome measure) with school and year fixed effects to estimate the effects of within-school changes in SRO coverage on student outcomes. These outcomes include: violent incidents, weapon possession, alcohol or drug possession, minor offenses, long-term suspension or expulsion, short-term suspension, reports to law enforcement, juvenile justice complaints, reading and math test scores, and eventual high school graduation and/or adult conviction. We controlled for time-varying covariates related to student demographics, local economic indicators, and school resources.

The principals paper uses data from the 2007-08 to 2015-16 school years, in which individual students are easier to link to their disciplinary records. In the first stage of analysis, we estimate what we call a principal “propensity to remove,” or PTR, which equals the likelihood of each principal to assign suspension, expulsion, or transfer to an alternative school, for the average disciplinary offense, conditional on the student behavior that led to this disciplinary decision. This is estimated in a school fixed effects (or random effects) regression of student removal on principal fixed effects and disciplinary referral controls, for each offense type separately. Principal PTR is a weighted average of these estimates on the principal fixed effect. In the second stage of analysis, we regress student outcomes on principal PTR, student and school controls, and school, grade, and year fixed effects. This means that we are estimating effects of within-school principal transitions from a more lenient principal (for instance) to a more severe principal, or vice versa.

To estimate disparate effects of SROs and principals on students of different racial/ethnic backgrounds, we employ the following methods. For the SROs study, we construct school count variables and/or school average variables for White students, Black students, and Hispanic students, separately. We then replicate each regression for these different groups of students. For

the principals analysis, we estimate PTR separately for each principal for White students and Black students, to allow them to have suspension practices that differ by student race. We then calculate the gap between these two measures as an indication of principal “bias” and estimate effects on student outcomes.

### **Expected applications**

The purpose of this research is to better understand how school personnel influence school safety and student disciplinary actions and consequences, and to understand the long-term implications of these actions and consequences. Our research will speak to the debate around the use of SROs in public schools and around issues of training and accountability of SROs. It will also speak to the links between school disciplinary policies and processes and school safety and student well-being. In this way it can also inform federal and state policies around school discipline. Finally, we are making publicly available the cleaned North Carolina adult convictions database for use of future researchers.

## **2. Participants**

This grant is led by the Research Foundation of the State University of New York. The Principal Investigator is Lucy Sorensen, an Assistant Professor in Public Administration and Policy at the University at Albany, State University of New York. The Co-PI is Shawn Bushway, a Senior Policy Researcher at RAND Corporation and Professor of Public Administration and Policy (on leave) from University at Albany, State University of New York.

Other researchers on this project included Yinzhi Shen, a doctoral student in Sociology who worked closely on this project for multiple years. She was a coauthor on the SRO paper, and used the adult convictions data from NC DPS for her dissertation research on cumulative disadvantage in the adult criminal justice system. She has since graduated and received a Postdoctoral Researcher position at Princeton University working with Professor Patrick Sharkey. John Engberg, a Senior Economist at the RAND Corporation, also collaborated on one part of this project examining dynamic effects of student suspension. Elizabeth Gifford at Duke University collaborated on the principals paper and facilitated conversations with practitioners and the policy community within North Carolina.

In addition to the research personnel, the North Carolina Education Research Data Center and North Carolina Department of Public Safety were instrumental in providing data access, Hui-Shien Tsao at the Center for Social and Demographic Analysis at University at Albany provided assistance in secure data management.

## **3. Changes from original research design**

We made three changes to our original research design in response to availability of new data and discovery of new important mechanisms in school safety and discipline. These changes are as follows:

- We added juvenile justice complaints as outcome variables because we successfully applied for and received access to juvenile justice records that could be matched to individual students. This was beneficial as we needed to understand potential pathways by which school policies and personnel could affect student involvement in the adult criminal justice system.

- We changed slightly the year coverage for each analysis based on unexpected data limitations. For instance, we expected to get data on SRO coverage for all years in our data, but after numerous attempts at working with the respective agencies needed to make do with publicly-available annual SRO census reports from a shorter number of years. For the principals analysis, we restricted to 2008 forward because the disciplinary referral data is more comprehensive and more reliably linked to individuals beginning in that year.
- We added school principals as key actors in this analysis because we realized the critical role that principals were playing in driving school discipline decisions, and that even effects of SROs appeared to operate through school administrators.
- We recently identified a new data source on SROs from the U.S. Department of Education (the Civil Rights Data Collection, 2018-2019). We have written a draft of a paper evaluating the impact of SROs using this new data – see extensions below.
- We have begun to do some dynamic modeling of the impact school disciplinary decisions on future decisions using the concept of state dependence from economics. See extensions below.

## 4. Outcomes

### Accomplishments

The main accomplishments of this project include:

- Constructing a linked longitudinal database of student records, juvenile justice records, and adult conviction and incarceration records for the entire state of North Carolina.
- Performing descriptive analysis on how students interact with the school disciplinary system, juvenile justice system, and eventually adult justice system over time.
- Conducting an evaluation of the effect of middle school SRO presence on school safety and student disciplinary outcomes, resulting in a paper published in *Educational Evaluation and Policy Analysis*.
- Conducting an evaluation of the effects of harsher and more lenient school principals on student short- and long-term outcomes, resulting in a paper published in *Education Finance and Policy*.
- Building new empirical approaches that control for underlying student offense type and offense history in estimating effects of disciplinary or policing approaches.
- Examining how SRO and principal activities affect racial/ethnic disparities in school punishment and more formal punishment in the juvenile and adult justice systems.
- Presenting our findings at multiple academic conferences, including the Association of Education Finance and Policy (AEFP), Association of Public Policy Analysis and Management (APPAM), and Population Association of America (PAA) conferences, and other well-attended workshops and events, including presentations at RAND, Carnegie Mellon University, and University at Albany.
- Disseminating our findings through NIJ virtual conferences and events, public engaged scholarship (such as the Brookings Institute essay), media interviews, and a policy brief that we shared among North Carolina education groups.
- Collaborating and working closely with educators, practitioners, public officials, SROs, and advocacy organizations, in the production and dissemination of this research.

## Results and Findings

Our study on SROs concludes that the presence of an SRO in a middle school: reduces serious violence by 38% (from a baseline of 1 incident per school per year), more than doubles law enforcement referrals (from 3 per school-year), increases long-term suspensions or expulsions by 68% (from 4.5 per school-year), and has no effect on weapon possession, alcohol or drug possession, test scores, or the long-term outcomes of adult conviction and educational attainment. These results imply that SROs do reduce violence in schools, but they also increase the likelihood that students are suspended for over two weeks, expelled, or referred to law enforcement, for school-based offenses. When we split juvenile complaints into misdemeanors and felonies, we find a large increase in misdemeanor juvenile complaints under SROs, but also a small decrease in felony complaints explained by the decrease in serious violence. (We are cautious in our interpretation of the result on referrals to law enforcement, because this measure includes referrals to police outside of the school, but it also includes referrals to the SRO within the school).

The effects of SROs on student outcomes vary significantly based on race. We find that most of the reduction in serious violence reflects fewer violent acts committed by White students. Conversely, the increase in punitive measures taken against students predominantly reflects actions taken against Black and Hispanic students. For instance, whereas police referrals increased by 96 percent for White students over the course of a school year under SRO presence, they increased by 295 percent for Black students and 194 percent for Hispanic students. Long-term suspensions and expulsions similarly rose by 36 percent for White students, but by 91 percent for Black students.

In the principals study, we find that the disciplinary decisions made under the discretion of principals, or their administrative team, have consequences. We find that replacing a more lenient principal (10th percentile likelihood to suspend) with a harsher principal (90th percentile likelihood to suspend) increases the rate of OSS and expulsion. It does so particularly for students who commit minor offenses, such as disrespectful behavior, inappropriate language, or showing up late to class. For students who commit more serious offenses, having a harsh principal also increases the likelihood of a juvenile justice referral. Stricter disciplinary practices do yield a small deterrent effect, decreasing minor student misconduct by 9 percent, but have no effect on the incidence of serious crime. Further, there were no positive spillover effects of disciplinary severity on the learning of students who did not get suspended. If anything, these non-suspended students had slightly lower test scores and high school graduation likelihood under harsher principals.

Stricter principal disciplinary approaches have especially disruptive impacts on students who commit minor offenses. Students who are reported for such minor misconduct under a harsher principal, as compared with those reported under a more lenient principal, ultimately show: higher likelihood of OSS or expulsion, more absences from school, lower math and reading test scores, higher likelihood of grade retention, and lower likelihood of high school graduation.

Our study also finds that, on average, principals are more likely to assign OSS or expulsion to a Black student than to a white student, holding constant both the severity of the disciplinary offense and the student's prior disciplinary history. However, the amount of racial bias exhibited in disciplinary decisions varies widely across principals. Principals who are more racially biased in their disciplinary decisions lead to improved educational outcomes for white students but worse outcomes for Black and Hispanic students.

By combining the findings of these two studies, we gain a few additional insights. First, school principals have wider-reaching impacts on disciplinary, criminal, and educational outcomes of students, than do SROs, whose impacts are more limited. Second, exclusionary disciplinary practices within schools yield long-lasting adverse consequences, and so any involvement of police in expanding the use of exclusionary discipline could harm students. And third, when it comes to both treatment of students by police and treatment of students by school administrators, policing and discipline have unequal effects on students of different racial and ethnic backgrounds. This suggests that the answer to policy questions related to school policing and school discipline may differ substantively across contexts.

### **Limitations**

This project contains several limitations. First, for both school discipline records and criminal justice records, we rely on information that comes from endogenous reporting behavior. For instance, the extent to which SROs affect the reporting of crime, or the extent to which principals affect the reporting of school disciplinary incidents, our estimated effects of SRO and principal actions on school safety and student outcomes could be biased.

Second, our studies are limited to the middle school environment. In some ways this is a strength, given that SROs and suspensions have been studied previously largely in the context of high schools. However, it limits the generalizability of our findings to settings outside of public middle schools.

Finally, the SRO study in particular is limited by the availability of data on police in schools. We relied on public annual census reports to determine full, partial, or zero coverage of middle schools by SROs by county, but can only make limited inferences.

### **Extensions/Ongoing Work**

Our work on SRO's had some external validity limitations (North Carolina, 10 years old, middle schools only) and some internal validity challenges created by the absence of good school level data on SROs, a common limitation in studies of SROs. In the fall of 2020, we noticed that the most recent version of the Civil Rights Data Collection from the U.S. Department of Education had detailed data on both school disciplinary events and school resource officers. Moving quickly, we produced a preliminary draft of a paper looking at the impact of SRO's in the first year of the deployment, which we presented this past spring (see below). We use detailed data on the COPS Hiring grants program to compare schools that received an SRO through that funding mechanism with schools just below the threshold that did not. We are in the process of finalizing this research and rewriting the paper for submission to a journal. We just received (via FOIA) detailed information on the grants hiring program from the COPS office that will allow us to more carefully identify the effects. This strategy is similar to what Emily Owens used in her JPAM paper – the advantage is that we have data at the school level, instead of just the county or district level. In addition, this study uses very recent data from 2017-18. We believe that this paper has the potential to provide the best evidence yet on the impact of new SROs on outcomes at the school level. We will acknowledge this grant in any publications or future presentations.



In addition, we have begun to use an approach from economics to determine if there is a “school-to-prison pipeline” in the dynamic sense that the term is often used. In our view, the pipeline analogy suggests that the actions of the school system itself moves students closer to the criminal justice system independent of the actions of the student. In the language of economics, this suggests that school discipline is state dependent. We have begun to estimate state dependent models using the 6<sup>th</sup> grade disciplinary data in North Carolina. We are in the process of applying for additional funding to continue this work.

## 5. Artifacts

### Publications

Sorensen, Lucy C., Yinzhi Shen, and Shawn D. Bushway. 2021. Making Schools Safer and/or Escalating Disciplinary Response: A Study of Police Officers in North Carolina Schools. *Educational Evaluation and Policy Analysis*.

Sorensen, Lucy C., Shawn D. Bushway, and Elizabeth Gifford. Forthcoming. Getting Tough? The Effects of Discretionary Principal Discipline on Student Outcomes. *Education Finance and Policy*.

Shen, Yinzhi, Shawn F. Bushway, Lucy C. Sorensen, and Herbert Smith. 2020. Locking Up my Generation: Cohort Differences in Prison Spells Over the Life Course. *Criminology* 58(4): 645-677.

*N.B. This paper was not a main outcome of the grant, but rather a related project that we developed using the NC data. We have not included the numerous presentations associated with this paper below, but we did want to acknowledge the linkage.*

### Presentations

Sorensen, Lucy C., Montserrat Avila Acosta, John Engberg, and Shawn D. Bushway. 2021. The Thin Blue Line in Schools: New Evidence on School-Based Policing Across the U.S. Association of Education Finance and Policy Annual Conference, Virtual.

Shawn D. Bushway and Lucy Sorensen. 2021. Different Disciplinarians in Schools: The Impact of SROs and Principals on School Safety and Student Outcomes. Stockholm Criminology Symposium

Sorensen, Lucy C. and Shawn D. Bushway. 2021. Different Disciplinarians in Schools: The Impact of SROs and Principals on School Safety and Student Outcomes. U.S. Department of Justice, National Institute of Justice. Virtual Conference on School Safety.

Sorensen, Lucy C., Yinzhi Shen, and Shawn D. Bushway. 2019. Making Schools Safer and/or Escalating Disciplinary Response: A Study of Police Officers in North Carolina Schools. Association of Public Policy Analysis and Management Fall Research Conference, Denver, CO.

Sorensen, Lucy C., Yinzhi Shen, and Shawn D. Bushway. 2019. Making Schools Safer and/or Escalating Disciplinary Response: A Study of Police Officers in North Carolina Schools. Population Association of America Annual Meeting, Austin, TX.

Sorensen, Lucy C., Shawn D. Bushway, and Elizabeth Gifford. 2019. Getting Tough? The Effects of Discretionary Principal Discipline on Student Outcomes. Carnegie Mellon University Heinz College.

Sorensen, Lucy C., Shawn D. Bushway, and Elizabeth Gifford. 2019. Getting Tough? The Effects of Discretionary Principal Discipline on Student Outcomes. RAND Corporation. Education and Labor Seminar.

Sorensen, Lucy C., Shawn D. Bushway, and Elizabeth Gifford. 2019. The Effects of Principal Discretionary Discipline on Student Outcomes. Association of Education Finance and Policy Annual Conference, Kansas City, MO.

Sorensen, Lucy C., Yinzhi Shen, and Shawn D. Bushway. 2019. Making Schools Safer and/or Escalating Disciplinary Response: A Study of Police Officers in North Carolina Schools. Northeast Economics of Education Workshop. Amherst College, Amherst, MA.

Sorensen, Lucy C., Shawn D. Bushway, and Elizabeth Gifford. 2019. The Effects of Principal Discretionary Discipline on Student Outcomes. Institute for Research on Poverty Summer Research Workshop. University of Wisconsin – Madison, WI.

### **Public engagement**

Sorensen, Lucy C. 2021. Do Principals Hold the Key for Fixing School Discipline? Brown Center Chalkboard, Brookings Institute.

Bushway, Shawn D. 2020. Interviewed in “Do officers belong in schools? Districts cut ties, debate best paths to safety.” *Christian Science Monitor*. Available at: <https://www.csmonitor.com/USA/Education/2020/0618/Do-officers-belong-in-schools-Districts-cut-ties-debate-best-path-to-safety>

### **Datasets**

As per our data archive plan, we have posted a clean, merged version of the North Carolina adult conviction and incarceration dataset we used for this project, along with associated documentation to the National Archive of Criminal Justice Data (NACJD).