

Immediate Impacts of Community Violence on Student Behavior in Schools

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Years of developmental psychology research links traumatic experiences to long-term student externalizing problems (Bingenheimer et al. 2005; Denese & McEwen, 2012; Osofsky 1999; Pynoos et al. 1987; Raver, Blair & Willoughby, 2013; Shonkoff et al., 2012). A related body of work relates negative life outcomes with exposure to high-poverty, high-crime neighborhoods during childhood (Harding 2003; Sampson, Sharkey, and Raudenbush 2008; Wodtke, Harding and Elwert 2011), although randomized housing experiments have yielded mixed evidence (Burdick-Will et al. 2011; Ludwig et al. 2009; Rubinowitz and Rosenbaum 2000). Recent work by Sharkey and co-authors (2010, 2012, 2014) has examined more immediate outcomes of exposure to community violence, finding causally credible evidence that students score lower on both low- and high-stakes assessments for 7-10 days after a violent crime occurs on the block where they live. This study uses a similar approach to examine two dimensions of student behavior in the immediate aftermath of a violent crime on their block: attendance and the incidence of disciplinary infractions.

The data for this study combines discipline, attendance, and residence data from the Chicago Public Schools (CPS) with publically-available crime data from the Chicago Police Department (CPD). Starting with the full universe of noncharter¹ CPS students during the 2010-2011 and 2011-2012 school years, our sample is the subset of students who live on a block where a violent crime occurs at least once during the school year. For the purposes of this study, violent crime includes all crimes in which threat or actual bodily harm occurs, ranging from simple assault and simple battery to homicide.

Research Questions

- 1) Are students who experience violent crime on their block of residence more or less likely to attend school in the days following the crime?
- 2) Do students who experience violent crime on their block of residence exhibit increased externalizing behaviors at school in the days following the crime?
 - a. If so, do these behavioral changes result in a higher likelihood of suspension?
 - b. If so, do these patterns vary by student grade level? By prior exposure to violent crime? By school climate?

Analytic Framework

The sample of students included in this study includes students in noncharter CPS schools at all grade levels, limited to those who experience a violent crime on their block. The discipline and attendance data is limited to events within a ten-day bandwidth of a violent crime. Students may appear multiple times if there are multiple violent crimes on their block of residence; however, we include only the first violent crime within any given bandwidth,

¹ Charter schools are not required to report student-level discipline information to the district.

dropping subsequent crimes which occur on the same block for twenty days after the first, and including only crimes for which there is a 10-day window before the crime without a preceding crime.

The analytic model for this study is of the form:

$$\text{logit}(\text{Pr}(Y_{it} = 1)) = \alpha T_{it} + f(t) + \eta_d + \pi_c + \phi_i,$$

where Y_{it} is an indicator variable for whether student i had the relevant outcome (absence, disciplinary event, or suspension) on day t ; T_{it} is an indicator for days in the post-crime period; $f(t)$ is a third-order polynomial in the date; η_d is the day of the week; π_c is the day of the week on which the crime occurred; and ϕ_i is a set of student fixed effects. Some specifications omit ϕ_i . Conceptually, this approach should be thought of as a sharp regression discontinuity design, where the days prior to the crime provide a valid counterfactual to the days after the crime.

Preliminary Results

In initial work, we find evidence students are *less* likely to have reported behavioral problems at school in the immediate aftermath of exposure to violent crime in their community of residence. Consistent with prior work suggesting younger children are more responsive to community violence, the impact is concentrated among younger children. For the elementary grades (1st-8th), students are 8% less likely to have a reported infraction, 11% less likely to have a particularly serious infraction, and 11% less likely to receive a suspension. (These results are shown in Table 1, which follows.) We are currently exploring whether this reduction in disruptive behavior may be attributed to reduced attendance in the aftermath of community violence. The hypothesis being that students exposed to crime may be less likely to engage in misbehavior because they are less likely to be at school. An alternative hypothesis to explain this result is that schools, especially schools that serve communities where students are frequently exposed to violence, may have programs in place to provide additional supports to students following the occurrence of violent events.

Table 1. Impact (odds ratio) of exposure to violent crime on block of residence, with student fixed effects

Outcome	All students	Grades 1-4	Grades 4-8	Grades 9-12	Grades 1-8
Infraction	0.98 (0.016)	0.89* (0.046)	0.93* (0.028)	1.02 (0.020)	0.92** (0.024)
N	420,615	41,400	115,665	234,450	164,910
Moderate/Severe Infraction	0.94** (0.019)	0.90+ (0.053)	0.89*** (0.031)	0.98 (0.027)	0.89*** (0.027)
N	289,830	33,510	94,650	140,940	143,175
Suspension (OSS or ISS)	0.95** (0.017)	0.89+ (0.051)	0.89*** (0.030)	1.00 (0.022)	0.89*** (0.026)
N	360,735	35,115	100,980	199,515	134,820

+ p<0.10 * p<0.05 ** p<0.01 ***p<0.001

Notes: Each estimate arises from a separate regression; each observation is a student-day. The sample for each regression is the set of students with the outcome at any point during the 20-day risk window. Days without school (e.g. weekends) are treated as missing.