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Space-time study of youth and school violence

STARS for Schools

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1. Introduction

School violence is a major concern for the safety and wellbeing of school-age youth in America. Based on national survey data and reports compiled for the Bureau of Justice Statistics by Robers et al., during the 2009-2010 school year, 74 percent of public schools in the United States reported one or more violent incidents of crime and 16 percent reported one or more serious violent events. (1) That year, approximately 828,000 non-fatal victimizations occurred among students between the ages of 12 and 18, including 470,000 victims of theft and 359,000 victims of violence. (2) Seventeen school homicides occurred, as well. (2) In 2010, a greater number of students between the ages of 12-18 were victimized at school or on their way to or from school than were victimized away from school (i.e., evenings/night time, weekends, summer). (1) Although the majority of school violence is not fatal, a large proportion of the violence that occurs in the context of school results in serious traumatic injury that requires hospital treatment. By using data from the National Electronic Surveillance System All Injury Program to study students treated in emergency departments, Amanullah et al. estimated that 7,397,301 youth in America received treatment in an emergency department for violent injuries sustained at school during 2001-2008. (3) About two thirds of the students were male and one third were female and about two thirds of the assaults occurred inside the school and one third occurred outside the school.

Violence is the end result of a causative web (4) of factors that include weapon carrying, substance use, and dangerous urban environments. Bullying is common as well, as is fear of being assaulted. During 2009-2010, 23 percent of public schools reported that bullying occurred among students on a daily or weekly basis. About 28 percent of students between 12-18 years of age reported having been bullied at school in the past year. In 2009-2010, a higher percentage of 12-18 year-old students reported that they were afraid of being attacked or harmed at school (4%) than away from school (3%). Also, 2 percent of students reported that they had avoided at least one school activity and 4 percent reported that they avoided one or more places in school during the previous year because of fear of attack or harm, including the school entrance, stairs and hallways, the school cafeteria, and school restrooms. (1)

With this context of bullying, substance use, and weapons being a reality in many schools in America, we can envision how as students try to navigate this dynamic landscape over the course of their school-day activities, specific situations may arise that result in the student being the victim of violence. It is plausible, then, that school violence might be prevented if specific situations that are conducive to violence could be identified. Following the theoretical paradigm of Crime Prevention Through Environmental Design (CPTED), (14-16) these situations could then be targeted, focusing on the times and locations where incidents are most likely to occur, as a way to make school buildings and the environments around schools safer. In particular, this plausibly could be accomplished by mediating the physical environment through the principles of ownership or territoriality, surveillance, and access control (14-16). To date, however, most efforts to prevent school violence have not been targeted per se, but instead are interventions that relate to the environment of the school more broadly. Installing metal detectors, using security cameras, and employing guards are examples. Importantly, there is little evidence that such efforts are effective in preventing school violence. (17-20) And to the contrary, Nickerson and Martens found the use of security guards and metal detectors was associated with more incidents of school crime and disruption, (21) Mayer and Leaone found that that these efforts were associated with higher levels of disorder, (22) and Gastic found that metal detectors were negatively correlated with students sense of safety at school, even after controlling for level of violence at schools. (23) These efforts are nevertheless commonly used, with 68 percent of 12-18 year old students

reporting in 2009 that security guards or police officers were present in their school, 70% reporting use of security cameras, and 11% reporting use of metal detectors.

2. Purpose

The purpose of this study is to conduct the first, large-scale, mixed-methods investigation that uses the concept of space-time windows of assault risk to understand how students' surroundings and experiences over the school day relate to the likelihood of being assaulted. This study was designed to answer the following questions:

1. Does the individual (e.g., weapon carrying, substance use) and environmental (e.g., with companion, with teacher, on bus, in cafeteria, school ground, prospect/refuge/escape possibilities) context of adolescents' activities on their way to school, during school, and after school relate to the risk that students will be assaulted?
2. What features of the individual and environmental context, if targeted, would enable the greatest reduction in school assault among adolescents?

The qualitative portion of this study, which has been conducted to provide insight rather than test hypotheses, is designed to answer the following question:

1. How do characteristics of the things students do, the people they are with, and the places they travel through or spend time put the student at risk or protect the student from violence? That is, what is the mechanism by which a risk or protective effect operates?

3. Methods

The proposed study entails a mixed-methods approach. The quantitative component is a case-time-control study to identify risk and protective factors for school assault by analyzing detailed point paths of each student's daily activities leading up to the time of the assault. The case-time-control study design was designed as a variant of the case-control study design to give investigators a way to complete tests of causal hypotheses when it appears difficult or impossible to enroll a group of population-based controls who will be truly representative of the population that gave rise to the cases, which is necessary to avoid selection bias. The case-time-control method was originally developed in pharmaco-epidemiology to overcome the problem of confounding by indication (Suissa, 1995), where case subjects have an inherent risk of disease based on compromised health status, and it is not possible to enroll a comparable group of control subjects to derive unbiased effect estimates to determine whether medications improve their health status. The defining characteristic of the case-time-control approach is that the exposure status of each case subject at the time of disease or injury onset is compared against itself at earlier points in time, by taking measurement of the subjects' exposure status at those earlier times. The case-crossover design is a variant of this design that uses only one pre-event time as the comparison time, but as such does not let the investigator adjust adequately for risks that increase as a monotonic function of time (Allison & Christakis, 2006; Suissa, 1995). This problem is overcome by taking repeated measurement of the subjects' exposure status over time and analyzing the data using fixed effects analysis which treats each observation of the subject as a separate unit of analysis (Allison, 2009; Allison & Christakis, 2006). The case-time-control design is appropriate for studying acute onset outcomes such as injury and studying transient exposures such as alcohol consumption. It has been used to study the risk of convulsive events following a vaccination episode (Farrington, 1995; Farrington,

Nash, & Miller, 1996), and has been used in the New England Journal Medicine Article by our colleague Dr. Allison to study the risk of death associated with recent hospitalization of a spouse (Christakis & Allison, 2006). A strength of this approach is that it serves to control for all time-invariant within-subject confounding factors (Allison, 2009), whether they are measurable or not, such as the increased risk that a subject may face based on his interactions with gang members in the recent past, which cannot be measured with accuracy. Thus this method provides an innovative and excellent way to study the complex problem of assault injury risk by controlling for predisposed inherent risks that each subject may bring to our analysis.

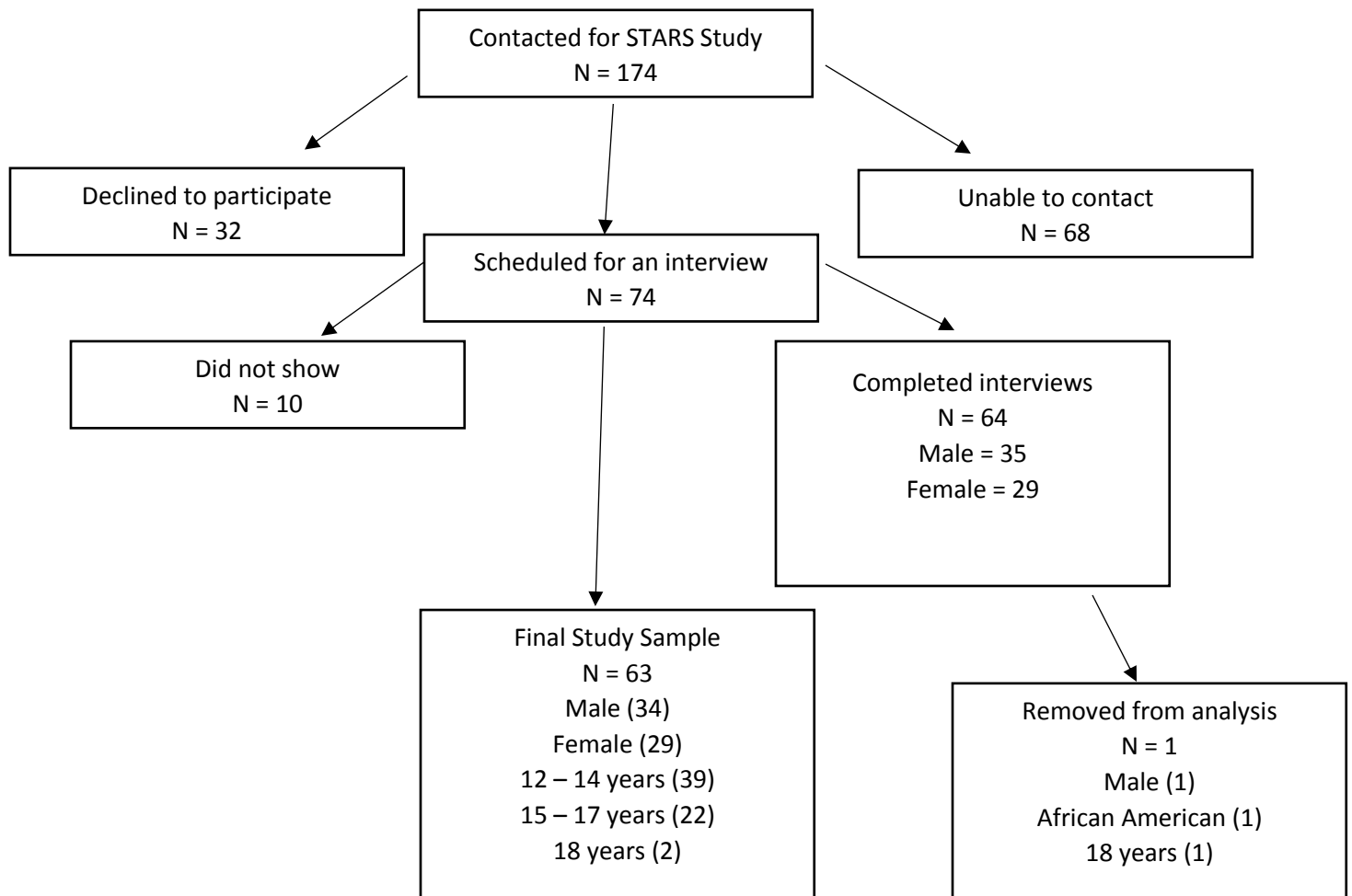
We have additionally performed a qualitative study of the narrative data derived from the semi-structured interview questions with students to supplement our understanding of the quantitative results.

Participants

The study population consisted of adolescents between the ages of 12-18 years old who live and go to school in Philadelphia, who were involved (as either a victim or perpetrator) in a violent school-related assault, altercation, or fight in the six months previous to their interview date.

The following exclusion criteria were enacted to specifically limit, to the greatest possible extent, variables that might confound the aims of this study. Students were excluded from participation if: 1) they sustained injury from self-harm or domestic abuse; they exhibit extreme illness or impaired cognitive ability unrelated to their qualifying assault; the parents have no reachable home or cellular phone to obtain consent and schedule an interview; students who were outside the City of Philadelphia for all or part of the period in which daily activities would be reported; if they are currently incarcerated. Students with a mental or physical disability were deliberately not excluded from the study population in order to represent a key demographic population who face bullying and violence in schools.

A total of 174 potential eligible students were contacted to participate in the study. Of that total, 100 students could not be reached to confirm an interview or were not interested in participating. Ten students were scheduled and did not show up for their interview. A total of 64 students participated in the study. Of those 64, one was excluded from the sample, due to a later determination that the individual did not appropriately meet geographic inclusion criteria. Thus the total N was 63 participants. For one participant, the mapping software had a technical malfunction that prevented the data from being recorded for the mapping portion of the interview. Thus the map data are comprised of 62 participants.



Recruitment

Several different avenues were utilized for participant recruitment. Eligible students were identified through a combination of healthcare, non-profit, and educational institutions throughout Philadelphia. Study staff who were employed as Academic Associates (AA) at The Children’s Hospital of Philadelphia (CHOP), a prominent children’s hospital in the area, screened children who came into the facility by way of the emergency department (ED). Children ages 12-18 years who entered the ED with a series of chief complaints on their medical chart, including but not limited to “assault,” were approached about the study by an AA and screened to determine if their injury was caused by an incident of school violence and their interest in participating in the study. Students and their parent or guardian, if interested, were told they would be contacted by a study team member within the week following their ED visit, out of respect to the child healing from their immediate trauma. Additionally, flyers were distributed at CHOP satellite primary care clinics, and clinicians at these locations referred eligible and interested patients to the study staff. Recruitment opened in February of 2018 but the first successful enrollment was not completed until November 2018. In total, 23 student participants were recruited via CHOP and CHOP satellite primary care clinics.

While recruitment from CHOP and its satellite clinics was beneficial, it was slow-moving and difficult. Recruiting patients out of the CHOP ED is common for studies at CHOP or the University of Pennsylvania (Penn), and thus, competitive. Often, patients and families may be approached to participate in multiple studies. Moreover, the study staff faced continual barriers in coordinating a time that the eligible student and guardian were available to travel back from their homes to the study team office in order to participate. Many parents were hard to get in touch with after they had departed the ED with their child. Many of those who were able to be reached declined to participate because they did not want to travel back to CHOP's or Penn's campus. Additionally, due to these scheduling and transportation issues, 10 participants who initially agreed to attend an interview session failed to show for the session.

In an effort to alleviate these barriers and dramatically expand recruitment efforts, the study team enlisted the help of community recruitment in June 2019 via community non-profit and educational institutions. After connecting through the network of a local non-profit, two main educational institutions in Philadelphia (Facility A and Facility B) provided recruitment aid. Study staff conducted weekly site visits to Facility A, a K-8 charter school in West Philadelphia, where one of the school's guidance counselors, nominated as the school's 'community champion' for the study, helped to identify students who could be a good fit for the study. After introducing the student to the study staff, and being further informed on the premise and purpose of the study, the students were able to determine whether or not they were interested in participating. Facility B, a residential live-in school facility for students who have struggled with bullying and/or substance abuse issues, coordinated monthly visits from study staff. A resident life coordinator, nominated as the site's 'community champion,' helped study staff to identify students who could be a good fit for the study, similarly to the setup in Facility A. Between these community recruitment efforts, 37 additional participants were enrolled into the study.

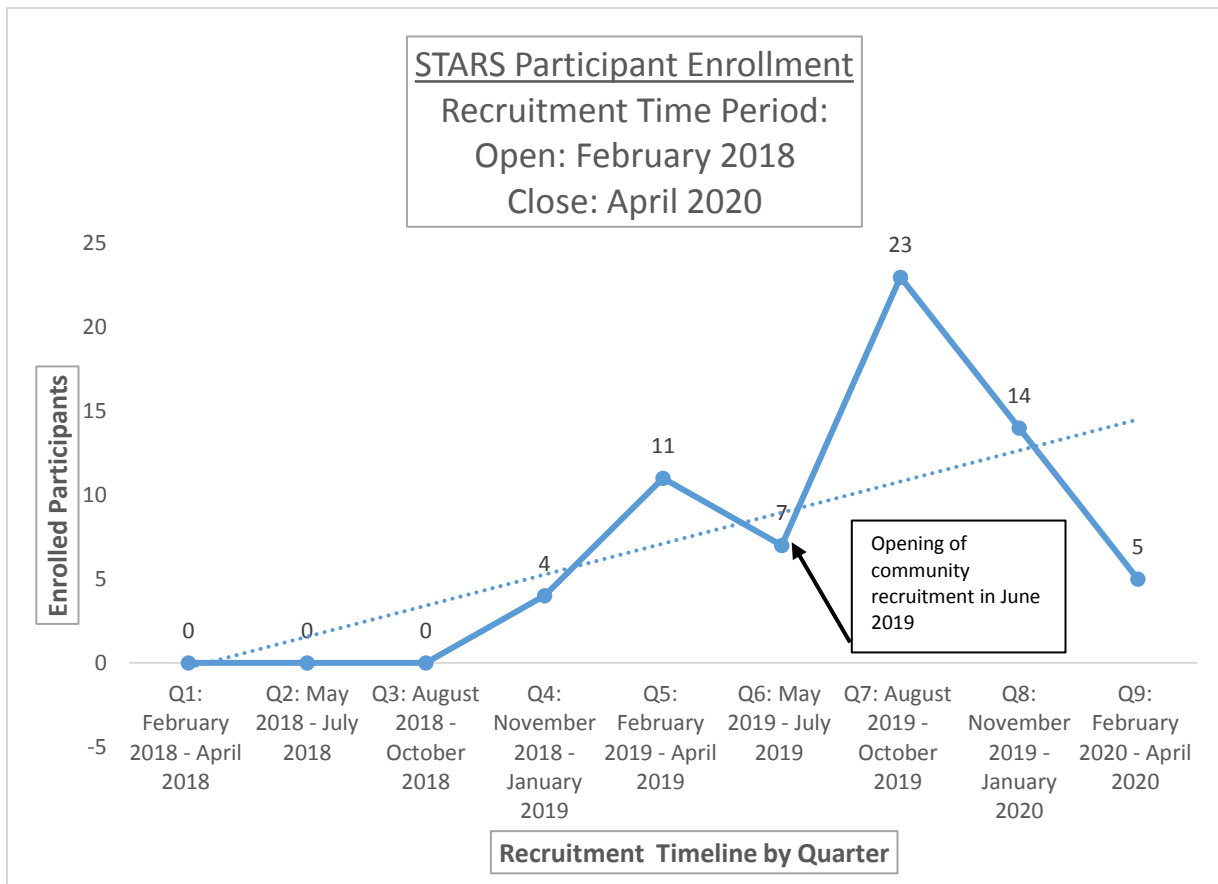
Finally, a total of four study participants were recruited via their siblings, who were previously enrolled into the study. In each of these cases, when a participant's guardian was contacted to obtain informed consent, they mentioned another child of theirs who would be eligible for the study as well.

Several other area hospitals, schools, and community centers were enlisted to help with study recruitment and were very enthusiastic about the study, but did not yield any study participants.

Note that enrollment and all study activities were halted during the course of the study, first while an agreement was reached with the NIJ regarding providing remuneration to study participants, and second when the study underwent an audit. Both of those events interrupted our progress and posed challenges for completing the study as planned in a timely fashion. Note that the audit concluded "no findings."

As reflected below in graphic R.1, recruitment opened for the STARS study in February 2018. No participants were successfully enrolled into the study until November of 2018, and, as enrollment was restricted to CHOP ED entry only, it was rather slow. When community recruitment for the study opened in late June 2019, enrollment increased exponentially. From the time that community recruitment opened, only eight more participants came to the study through the CHOP ED or satellite clinics, while 37 participants enrolled via community sites.

Graphic R.1 – STARS Participant Enrollment



Consent

Study staff were required to obtain signed child assent forms and parental verbal consent for participants between the ages of 12 – 17 years old. Parental verbal consent was provided via telephone calls from study staff to the appropriate parent or guardian figure prior to the child’s interview. In the case of participants whose parent or guardian accompanied them to the study interview, the guardian figure would physically sign a parental consent form. Participants age 18 years signed their own consent form.

Compensation

Each participant received a Target gift card as remuneration for their participation. Adolescents age 12-13 years old received a \$20 gift card for school supplies; adolescents 14-17 years old received a \$35 gift card for school supplies; and adolescents 18 years old received a \$45 gift card for school supplies. In our research with CHOP regarding the population to be included in this study, we have found these amounts to be appropriate and necessary to adequately have individuals participate in research without being unduly enticing. We also compensated one parent/guardian of a participant 17 years old or younger who accompanied their child to the interview appointment a \$20 gift card to Amazon, for time spent and associated travel costs to bring their child to the interview.

Procedures

Study participation consisted of a one-time, in person interview. Participants recruited from CHOP or a satellite clinic arranged for a mutual time for the family and the study staff to return to office space at CHOP or at the University of Penn to conduct the interview. Students recruited through community partner sites were met at their schools during the school day for their convenience. At either location, participants were brought into a closed room or office space to ensure confidentiality and privacy. If a parent or guardian was present, both the student and guardian were explained study protocols and asked to sign informed consent. If a guardian was not present, they were contacted via telephone and then explained protocols and provided informed consent. Students were asked to sign a written child assent.

Interviews typically lasted between 30-45 minutes and were audio recorded to ensure answers were captured. Interview staff verbally administered a standardized questionnaire, consisting of approximately 100 multiple choice questions, asking about demographics, the circumstances of their assault, their neighborhood and school climate, and previous exposure to different circumstances of violence. This portion of the interview typically took 15-20 minutes. All answers were logged as entries into RedCAP data management software. Then, interview staff asked participants to 'walk' them through the day they were assaulted, in order to create geo-spatial 'activity paths' of their day's activities leading up to their instance of injury or assault, starting at the time they woke up and ending at the point of injury. Staff were careful to ask about the presence of different factors of interest, including company, illicit substances, weapons, and feelings of safety. All audio recordings, RedCAP entries, and mapping data were completely de-identified to ensure subject confidentiality.

Surveys

We administered multiple survey instruments that have been used widely in past research on youth violence and school safety, both at and outside of the University of Penn and CHOP. We broke up sections of five larger, previously validated scales to create our quantitative baseline survey, consisting of approximately 100 questions. The scales utilized were: Measuring School Climate in High Schools: A Focus on Safety, Engagement, and the Environment (24); Neighborhood environment and opportunity to use cocaine and other drugs in late childhood and early adolescence (25); Things I Have Seen and Heard: An interview for young children about exposure to violence (26); the CHOP Violence Intervention Program intake survey (27); and Generalized Self-Efficacy scale (28).

Analysis

Interviews were transcribed for the qualitative portion of analysis. Transcriptions were coded using NVivo software. Preliminary emerging themes were identified by coders throughout the analysis.

ArcGIS software was used to collect and prepare the path data for analysis. The path data and the data from the intake interview/survey were analyzed using Stata 16 software. Descriptive statistics included frequencies, medians, and interquartile ranges. To test for triggers for the risk of assault, the path data were analyzed by estimating matched case-control odds ratios and calculating McNemar's chi-square test and 95% confidence intervals.

4. Results

4.1 Results, Qualitative

From the qualitative portion of our study, we identified the following major emerging themes:

Random is rare

Throughout the collection of interviews and stories we heard during our enrollment period, it became evident that instances of school violence such as those we studied are rarely truly 'random.' Very few participants indicated that they did not at least know of the person they were assaulted by, assaulted, or got into an altercation with. In the majority of instances, fights occurred after a culmination of verbal disagreements that escalated tensions from a period of a few hours to a period of a few months, in some extreme cases. It can be argued by either party as to whether the conflict justified a transition to violence, but it remains true that the altercation was not random: it was a result of previous argument or conflict that eventually reached a boiling point. Perfectly illustrating this are the separate interviews conducted of two brothers involved in the same incident. One brother described the assault as completely random, and did not know what caused it. The other brother explained that their assailants approached the brother and their friend, accusing her of previously fighting one of their (the assailants') friends. Even in the case of an event that was described by one person involved as random, there was additional evidence (though unbeknownst to him) that explained the event was in fact, not random at all.

Opportunities to intervene

Along with the theme that the majority of school violence does not occur randomly or without prior cause comes the idea that these type of situations where tensions escalate to a tipping point come with several opportunities to intervene and stop the conflict before it turns violent. Many students spoke of verbal arguments that occurred inside a classroom or lunchroom where others were present. If a trusted peer or adult had intervened to de-escalate the conflict between individuals, to break the downward spiral of frustration and anger that eventually led to physical fighting, the violence could have been prevented.

Faculty and staff fatigue

In addition to many interviews describing apparent myriad opportunities for bystanders to intervene, it is important to note that in many cases, faculty and staff *did not intervene* until much too late, if at all. Many of the students we spoke to described a school environment where fights occur often, and faculty are so exhausted by the circumstance that they become jaded to it. One participant, in describing the classroom in which he was assaulted in, explained that his teacher said to the students in the beginning of the year, "If you are going to fight, break it up yourselves, because I won't."

Gender

Gender played a significant role in the evolution of conflict, though not necessarily in a one-way manner. While many participants indicated that the violent event they were involved in started out as a conflict between individuals of the same sex, this was not necessarily true of the fight or altercation. In short, many conflicts started out as conflict between students of the same sex, but many fights culminated in both boys and girls fighting each other.

*Note: For purposes of this study, we did not ask participants to identify their gender, and based analysis off sex assigned at birth. We defined gender as male or female.

Escape

Many students described the concept of escape as important to their situation. While some indicated that the fight or assault occurred in a location where they were trapped by surrounding physical environment structures, like a hidden hallway inside the school, or people, like a large crowd that was difficult to maneuver through; others indicated that the fight ended because they were able to run away and escape.

Lack of illicit substances or weapons

Contradictory to our original hypotheses, almost none of our participants indicated that drugs, alcohol, or weapons were present or a factor in their assault or fight. The majority of participants explained violent circumstances in which all actors were sober and the fighting was done with only what can be accomplished with one’s body.

No ‘victims’ or ‘perpetrators’

Early in our analysis, we commonly referred to study participants as ‘victims’ and the person who they fought, ‘assailants’ or ‘perpetrators.’ However, coinciding with the idea that rarely is school violence random, it became clear that rarely do instances of school violence have a clear-cut ‘victim’ and ‘assailant.’ Often, these conflicts arose out of mutual conflict and frustration, leaving all involved with partial blame and partial innocence.

De-sensitization to violence

For many of the students interviewed, fighting and violence was a normal part of school life that they came to expect. Fights happen in and out of school often, and some are not fazed by their occurrence. Others believe they will continue to happen, no matter the policy changes.

Presence of trauma and importance of emotion regulation

Many of the students we interviewed came from and/or went to school in lower income neighborhoods and expressed instances of past trauma. Continuing, as is often the case with violence, many of the presented assaults and altercations occurred over conflicts that could have and should have been solved without physical fighting. The importance of education about emotion regulation and conflict resolution in all schools was highlighted.

Table C1 – Qualitative Emerging Themes Summary

Theme	Sample quote pulled from interviews
Random is rare	“Okay, so back in December, I was outside at recess and she punched me from behind. And then last Thursday, I walked up to her and punched her in the face.” “She called me a beast, so I got mad and I hit her.”

<p>Opportunities to intervene</p>	<p>“The teacher was calling us to line up and I was walking, but I didn't know that she was behind me, and I had my hood on and stuff. And she punched me.”</p> <p>“It was a fight before and I think that's what triggered a fight after school.”</p> <p>“Because we don't got recess no more, so we was arguing because we up in our teacher room for recess. So we was arguing because she kept putting herself in somebody else's business...then later at lunch I was sitting at my table and I got up to go line up to get our lunch. So then I seen her, she kept looking at me so I looked right back at her. She was like, "Is it a problem?" And I was like, "You tell me if it's a problem because you keep looking at me." She got up on her seat...she said, "So what, you want to fight?" I says whatever. She threw up her hands, so I threw up mine.”</p>
<p>Faculty and staff fatigue</p>	<p>“There's always fights in that class...my teacher says, 'If you are going to fight, break it up yourselves, because I won't.'”</p> <p>“Yeah, the teachers...they don't do nothing.”</p> <p>“The lady down there, she doesn't do anything...she might yell at you or something, but then if you do it again, she won't do anything...at my school, they won't suspend you for fighting or anything.”</p> <p>“They don't pay attention. Like kids have to yell and tell them that somebody is fighting.”</p> <p>“More staff need to pay attention. And I think they should turn their phone in, like we have to.”</p>
<p>Gender</p>	<p>(Female): “So I told the boy, I said, 'Just stand right here because I don't want a problem with her.' So I see the boys who, that's the seventh grade. And I said, 'Y'all need to walk with me in case there be any boys about.'”</p>

	<p>(Female): "Because when he was hitting me, they slammed my head and the girl kicked me in my head and stuff."</p> <p>(Female): "They all just came downstairs to my classroom and one of my friends texted me on Instagram. She said 'they were looking for you, so stay in the class until we all get out there' and then went downstairs and they jumped us and then I got punched in the mouth by a boy."</p>
Escape	<p>"Like, we just walk up the street, and whenever someone fights me, they just want me to go up there to where, like, no one can see, no adults or anything... there's just an alley right there."</p> <p>"That's when he started coming to me again. I don't know why, because I thought it was over. That's when I didn't know where to run, so I ran back on the street, on the sidewalk...that's when he started pushing me onto the car, and that's when he knocked me onto the floor..."</p> <p>Regarding a fight in the hallway: "...in the middle it's skinny... So right here is the skinny part. The fight happened from right here... So it's harder to get out of there, because it's a skinnier hallway. But if it was a big open hallway, it probably would've been easier to slip away."</p> <p>Regarding how the fight broke up: "We ran. We got away."</p>
Lack of illicit substances or weapons	<p>"No weapons. No, they was sober."</p> <p>"No, I didn't see them doing any of that with drugs or weapons."</p>
No 'victims' or 'perpetrators'	<p>"Yeah, we don't like (School A) because the stuff they be doing to our school. Don't get us wrong, sometimes we'll start stuff too. Don't be me, be my school, because my school don't like School A. The kids there don't like School A."</p> <p>"I was walking. That's when some girl approached me and was like, "Are you (name removed)'s sister? Oh, she jumped my little sister, so I want to fight." I was like, "First of all, I don't know you."</p>
De-sensitization to violence	<p>"It was normal. Couple of fights broke out during that classroom."</p>

	<p>“There always a fight. It’s just stupid stuff.”</p> <p>“I feel like people are going to fight. People are going to come in with different types of attitudes and demeanors and personalities and just everybody's personality is not going to connect. Some people want to fight, people are going to argue, but I feel like when people fight, just let it be there. The problem is, people fight and continue on with the beef and the drama and all that other stuff and that's how it becomes into bigger stuff...if y'all fight, y'all fight, leave it at that. There's no need for y'all to keep beefing, unless one of y'all want to fight again, that's just that...they're going to fight, they're going to argue.”</p>
<p>Presence of trauma and importance of emotion regulation</p>	<p>“So, every day I always have an attitude because I get to school late and I either served detention or I get a phone call home. So me, as always my attitudes, I give everybody attitude.”</p> <p>“Everybody knows not to touch them though. Don't touch my stuff, because I'll go crazy.”</p> <p>“In the morning, I was doing my work. I got mad. I walked out the classroom, I started walking around for a while, and then I was still mad. Then he bumped me. I said, "Watch where you going." And then he started talking, so that's when I started mouthing off, trying to start throwing punches. I threw the first punch, it hit. And then he hit me back. And then we started fighting.”</p> <p>“We walked over there so we could say, "Hi." That's when after he got done the race, that's when we all started playing around, and that's when my friend had hit him. He was hitting her back, stuff like that. We all was playing, and that's when I was playing with him, and I only hit him once. That's when he started getting an attitude with me. Started getting mad and upset, and my friend was trying to tell him, "Calm down. Calm down." We all was playing. It wasn't that serious. He was like, "No." Started yelling, and that's when my friend was trying to hold him back. She</p>

	was telling me to go run, walk away, so I'm trying to run and walk away...he finally got to me.”
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4.2 Results, Interview (baseline)

The baseline interview (N = 63 participants) had components that addressed a range of topics. Summary statistics regarding subject characteristics and responses to interview questions are listed in the Appendix, Table A1 through Table A6.9. A number of exemplary findings are as follows.

Table A1 reports demographic characteristics of the participants. Age ranged from 12 to 17 years old and the median age of participants was 14 years. 78% were African American; 11% were Hispanic, Latino, or of Spanish Origin.

Table A2 reports information about the assault and injury that the participant was involved in / sustained on the day that was the focus of the interview on their daily activities. Blunt trauma accounted for 20% of participants’ injuries; 13% of participants sustained a concussion, and 7% sustained a broken bone/fracture. The remainder of participants reported another type of unspecified injury (59%).

Tables A3.1 to A3.9 report on responses to the VIP survey which asks about the past 30 days.

Table A3.1 shows that 47% of participants (100% - 53% = 47%) reported someone trying to hurt them by punching them in the past 30%, 33% reported having been pushed or shoved in order to be hurt, and 74% reported having been yelled at or called names. 36% reported having been jumped or attached by a group of people.

Table A3.2 reports on experiences in the past 30 days while at school or travelling to or from school. 17% reported having seen someone carry a gun, 38% had heard gunshots, and 15% had run and hid because people had started shooting. 9% had seen someone point a gun at someone else, 10% had seen someone hold a knife against someone, and 10% had seen someone get killed. 47% had seen someone get jumped by a group of people.

Table A3.3 reports on experiences at school in the past 30 days. 26% reported having tried to hurt someone by pushing, grabbing, or shoving, 41% reported having tried to hurt someone by punching them, and 15% reported trying to hurt someone by kicking them. 74% had been in at least one physical fight.

Table A3.4 reports on participants’ views on violence. 62% reported “very much” agreeing that if someone hits you, you should hit back. 28% reported “very much” agreeing that to survive you should always be willing to fight back. 19% reported “very much” agreeing that it is ok to hurt people if they hurt you first.

Table A3.5 reports on what participants were likely to do or say when something bad or stressful happened. 33% reported they were “very likely” to try to think of ways to fix the problem or change the situation and 45% reported they were “very likely” to turn to family or other adults to help them feel better.

Table A3.6 reports on participants' responses to questions about stress. 31%, 22% and 14% respectively reported they sometimes, often, or always feel stressed. 22% reported they never feel overwhelmed, 17% reported they often feel overwhelmed, and 5% said they always feel overwhelmed.

Table A3.7 reports that 5% had used alcohol in the past 30 days and 20% had used marijuana in the past 30 days.

Table A3.8 reports that 10% of respondents had been stopped by the police in the past 30 days, 7% had been taken into police custody, and 5% had been put in jail or locked up.

Table A3.9 addressed school in the past 30 days. 50% of respondent reported getting mostly B grades and 22% reported getting mostly A grade. 48% reported plans to transfer schools in the next year. 85% reported going to school 5 days per week. 21% reported having been suspended, expelled, or involved in truancy. 59% reported having experienced bullying.

Table A4.1 reports on perceived safety. 76% report they knew the person who caused their injury that was the focus of their involvement as a participant in this study and 29% stated that the incident was reported to the police. Of those 19% reported that the police were helpful and 9% reported that the police were not helpful; the remained reported "don't know" (7%) or that the police had not yet completed their process. 64% reported that the conflict behind the assault was resolved and 22% that the conflict was not resolved. 54% reported that they sometimes chooses the route they take in an effort to be safe.

Table A4.2 reports responses to the NES (Neighborhood Environment Scale). 63% reported "agree" to being able to walk to a park or playground where they enjoy themselves and 47% reported "agree" to there being plenty of safe places to walk or play/exercise outdoors in their neighborhood. 5% said they "somewhat agree" and 7% said they "agree" that they see signs of racism and prejudice at least once per week. 49% reported "agree" to many yards and alleys having broken bottles and trash lying around. When asked whether people in their neighborhood respect the police, 15% reported "agree" and 32% reported disagree.

Table A5 reports that 3% had been carrying a weapon at the time of their assault/injury.

Table A6.1 reports responses to the Student Engagement Scale. JULIA – please look at the PDF of tables and carry on below using this format to describe a few findings from each of the A6 tables, there are 9 of them.

Table A6.1 reports responses to the Student Engagement Scale. 25% of respondents reported "agree" to liking going to their school. 25% of respondents reported "agree" to being proud to be a student at their school. 50% of respondents reported "agree" to feeling like they belong at their school. 75% of respondents reported "agree" to usually finishing their homework. 75% of respondents reported "strongly agree" to wanting to learn as much as they can at their school. 100% of respondents reported "strongly agree" that getting good grades is important to them.

Table A6.2 reports responses on School Discipline Structure. 25% of respondents reported "agree" to thinking the school rules are fair. 25% reported "agree" to thinking that the punishment for breaking school rules is the same for all students. 50% reported "agree" to thinking students at their school are only punished when they deserve it. 50% reported "agree" to thinking students are suspended without a

good reason. 75% reported “agree” to thinking that when students are accused of doing something wrong, they get a chance to explain. 75% reported “agree” to thinking students are treated fairly regardless of their race or ethnicity. 25% reported “agree” to thinking the adults at their school are too strict.

Table A6.3 reports responses to the Student Support Scale about respect for students. 50% of respondents reported “agree” to thinking that most teachers and other adults at their school care about all students. 75% reported “agree” to thinking that most teachers and other adults at their school want all students to do well. 50% reported “agree” to thinking that most teachers and other adults at their school listen to what students have to say. 50% reported “agree” to thinking that most teachers and other adults at their school treat students with respect.

Table A6.4 reports responses to the Student Support Scale about willingness to seek health. 50% of respondents reported “agree” to there being adults at their school they could talk with if they had a personal problem. 50% reported that they “agree” that if they tell a teacher that someone is bullying them, the teacher will do something about it. 75% reported that they “agree” that they are comfortable asking their teachers for help with their schoolwork. 75% reported that they “agree” that there is at least one teacher or other adult at their school who really wants them to do well. 50% reported that they “agree” that if another student talked about killing someone, they would tell one of the teachers. 50% reported that they “agree” that if another student brought a gun to school, they would tell one of the teachers or staff at school. 25% reported “agree” to feeling safe in their school.

Table A6.5 reports responses to the Academic Expectations Scale. 100% of respondents reported that they “agree” that their teachers expect them to work hard. 75% reported that they “agree” that their teachers really want them to learn a lot. 100% reported that they “agree” that their teachers expect a lot from students. 50% reported that they “agree” that their teachers do not really care how much they learn. 50% reported that they “agree” that their teachers expect them to attend college.

Table A6.6 reports responses to the Teasing and Bullying Scale. 100% of respondents reported that they “strongly agree” that students in their school are teased about their clothing or physical appearance. 25% reported that they “agree” that students in their school are teased or put down because of their race or ethnicity. 50% reported that they “agree” that there is a lot of teasing about sexual topics at their school. 25% reported that they “agree” that bullying is a problem at their school. 25% reported that they “agree” that students in their school are teased or put down about their sexual orientation.

Table A6.7 reports responses to Victim Experiences Scale. 50% of respondents reported that at or going to/from school a “one time” a student stole their personal property. 50% reported that at or going to/from school “more than once” a student physically attacked, pushed, or hit them. 50% reported that at or going to/from school “one time” a student threatened to hurt them. 25% reported that at or going to/from school “one time” a student threatened them with a weapon. 50% reported that at or going to/from school “more than once” a student said mean or insulting things to them.

Table A6.8 reports responses to Bullying Experiences Scale. 25% reported that “more than once per week” they have been bullied at school this year (since school started last fall). 25% reported that “once or twice” they have bullied others at school this year. 25% reported that “more than once per week” they have been physically bullied or threatened with physical bullying at school this year. 50% reported that “one or twice” they have been verbally bullied at school this year. 25% reported that “one or twice”

they have been socially bullied at school this year. 100% reported that they “never” have been cyberbullied at school this year. 100% reported that they “never” have been bullied by teachers or other adults at school this year.

4.3 Results, Activities on day of assault

Table B1 reports characteristics of the locations where participants’ home are located, which is where each participant started their day on the day they were assaulted. In the locations where participants lived, the median annual household income was \$26,280, the overall unemployment rate was 11%, 17% of adults had dropped out of high school, 91% were African American and 5% were Caucasian, 3% were Hispanic, 46% of adults did not own a vehicle, and 19% of dwellings were vacant. When considering the blocks where participants lived in the past year, 12% of participants had one or more aggravated assaults, 7% had a burglary, 18% had one or more vandalism incidents, and 18% had one or more theft incidents.

Table B2 reports results of the case-crossover analysis examining potential triggers for the onset of an assault during participants’ daily activities. These analyses compared a number of situations and contexts that participants were in at the time of their assault relative to just before the assault occurred. For example, being with friends when the assault occurred vs. being alone, being in the cafeteria vs. being in a classroom, and being in the school yard vs. inside the school building. None of these conditions was more common at the time participants were assaulted compared to just before they were assaulted, suggesting that none of these scenarios seemed to pose a risk for an assault to occur nor to protect against an assault occurring. There are range of other contrasts including adjusted analyses that will be evaluated while preparing manuscripts for submission.

5. Conclusions and Discussion

Preliminary conclusions based on the data collected and the narratives described by the participants suggest that violence occurs with some regularity in the areas where they live, many of the participants had past experiences with violence at school, and school violence is rarely ‘random’ in occurrence. Violent acts or incidents are perceived often to be the final culmination of a number of factors and events, building tensions and frustration until a final boiling point. Micro-aggressions, verbal disputes, missed opportunities for intervention and de-escalation, and overcrowded classrooms and hallways contribute to the building of tensions. Interestingly, the situational characteristics investigated to date were not associated with the onset of an assault or violence.

6. Policy Implications

Implementing trauma-informed training that occurs on a frequent basis at schools across Philadelphia could help teachers and staff to be reminded and encouraged that they have the authority and the opportunity to intervene and prevent conflict from turning into violence. Creating programming or educational opportunities for children to learn more about emotion regulation and conflict resolution could help students to deal with feelings of frustration and anger without escalating a situation to a violent encounter. Both of these appear warranted given how common school violence is in the lives of the students who participated in this study. Whether situational strategies for hardening specific targets might be protective against school violence can be assessed after additional analyses.

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8. Appendices: Tables of results

Table A1. Demographic characteristics.

	Total (N = 63)
Age	
Median (Q1, Q3)	14.0 (12.0, 16.0)
Sex	
Female	29 (46.0%)
Male	34 (54.0%)
What do you consider to be your race?	
Black or African American	49 (77.8%)
White	2 (3.2%)
American Indian and Alaska Native	1 (1.6%)
Other (Please specify)	11 (17.5%)
What is your ethnicity?	
Not Hispanic, Latino, or Spanish Origin	56 (88.9%)
Hispanic, Latino, or Spanish Origin	7 (11.1%)

Table A2. Assault and injury characteristics.

	Total (N = 63)
Type of injury	
Blunt trauma	11 (20.4%)
Concussion	7 (13.0%)
Broken bone/fracture	4 (7.4%)
Other	32 (59.3%)
Cause of assault	
Gang-related argument/fight	2 (3.2%)
Non-gang argument/fight	30 (48.4%)
Random violence	25 (40.3%)
Other	5 (8.1%)
Location of assault	
Subject's home, outdoors	1 (1.6%)
Other home, indoors	1 (1.6%)
Other home, outdoors	2 (3.2%)
School, indoors	30 (47.6%)
School, outdoors	13 (20.6%)
Street	10 (15.9%)
Other	6 (9.5%)

Table A3.1. VIP survey 1, In past 30 days how often...?

	Total (N = 63)
has someone tried to hurt you by hitting or punching you?	
0 times	31 (53.4%)
1-2 times	20 (34.5%)
3-4 times	2 (3.4%)
5-6 times	1 (1.7%)
7 or more times	4 (6.9%)
has someone tried to hurt you by pushing or shoving you?	
0 times	39 (67.2%)
1-2 times	12 (20.7%)
3-4 times	3 (5.2%)
7 or more times	4 (6.9%)
has someone tried to hurt your feelings by yelling at you or calling you mean names?	
0 times	26 (44.8%)
1-2 times	14 (24.1%)
3-4 times	3 (5.2%)
5-6 times	3 (5.2%)
7 or more times	12 (20.7%)
has another person said they were going to hurt you?	
0 times	26 (44.8%)
1-2 times	19 (32.8%)
3-4 times	6 (10.3%)
5-6 times	2 (3.4%)
7 or more times	5 (8.6%)
has someone tried to scare you by showing you a gun or knife?	
0 times	52 (89.7%)
1-2 times	5 (8.6%)
3-4 times	1 (1.7%)
has someone tried to hurt you by with a weapon like a bat, knife, or gun?	
0 times	52 (89.7%)
1-2 times	6 (10.3%)
how often have you been jumped or attacked by a group of people?	
0 times	37 (63.8%)
1-2 times	16 (27.6%)
3-4 times	1 (1.7%)
5-6 times	2 (3.4%)
7 or more times	2 (3.4%)
were you injured by someone who was trying to hurt you on purpose?	
0 times	37 (63.8%)
1-2 times	16 (27.6%)
3-4 times	4 (6.9%)

7 or more times	1 (1.7%)
did you go to the doctor or hospital because someone hurt you on purpose?	
0 times	41 (70.7%)
1-2 times	16 (27.6%)
7 or more times	1 (1.7%)

Table A3.2. VIP survey 2, In past 30 days how often, at or going to/from school....

	Total (N = 63)
did you see someone carry a gun?	
0 times	48 (82.8%)
1-2 times	7 (12.1%)
3-4 times	1 (1.7%)
5-6 times	1 (1.7%)
7 or more times	1 (1.7%)
did you hear gunshots?	
0 times	36 (62.1%)
1-2 times	11 (19.0%)
3-4 times	6 (10.3%)
5-6 times	1 (1.7%)
7 or more times	4 (6.9%)
did you see someone carry a knife?	
0 times	48 (82.8%)
1-2 times	7 (12.1%)
7 or more times	3 (5.2%)
did you run and hide because people started shooting?	
0 times	49 (84.5%)
1-2 times	7 (12.1%)
7 or more times	2 (3.4%)
did you see someone point a gun at someone else?	
0 times	53 (91.4%)
1-2 times	3 (5.2%)
3-4 times	1 (1.7%)
5-6 times	1 (1.7%)
did you see someone get beat up?	
0 times	19 (32.8%)
1-2 times	17 (29.3%)
3-4 times	7 (12.1%)
5-6 times	2 (3.4%)
7 or more times	13 (22.4%)
did you see someone hold a knife against someone else?	
0 times	52 (89.7%)
1-2 times	6 (10.3%)
did you see someone get killed?	
0 times	52 (89.7%)
1-2 times	6 (10.3%)
did you see someone get attacked with a knife?	
0 times	54 (93.1%)
1-2 times	4 (6.9%)
did you see a drive-by shooting?	
0 times	56 (96.6%)
1-2 times	2 (3.4%)
did you see someone getting shot?	

0 times	52 (89.7%)
1-2 times	6 (10.3%)
did you see someone get jumped by a group of people?	
0 times	30 (52.6%)
1-2 times	13 (22.8%)
3-4 times	5 (8.8%)
5-6 times	3 (5.3%)
7 or more times	6 (10.5%)

Table A3.3. VIP survey 3, In past 30 days how often, at school...?

	Total (N = 63)
did you try to hurt someone by pushing, grabbing, or shoving someone?	
0 times	43 (74.1%)
1-2 times	11 (19.0%)
3-4 times	3 (5.2%)
7 or more times	1 (1.7%)
did you try to hurt someone by hitting or punching them?	
0 times	34 (58.6%)
1-2 times	20 (34.5%)
3-4 times	1 (1.7%)
5-6 times	1 (1.7%)
7 or more times	2 (3.4%)
did you try to hurt someone by kicking them?	
0 times	49 (84.5%)
1-2 times	7 (12.1%)
7 or more times	2 (3.4%)
did you tell someone you were going to hurt them?	
0 times	45 (77.6%)
1-2 times	7 (12.1%)
3-4 times	2 (3.4%)
5-6 times	2 (3.4%)
7 or more times	2 (3.4%)
did you try to scare someone by showing them a knife or gun?	
0 times	56 (96.6%)
1-2 times	2 (3.4%)
were you in a physical fight?	
0 times	21 (36.2%)
1-2 times	24 (41.4%)
3-4 times	5 (8.6%)
5-6 times	2 (3.4%)
7 or more times	6 (10.3%)
did you try to hurt someone with a weapon like a bat, knife, or gun?	
0 times	57 (98.3%)
5-6 times	1 (1.7%)
did you and a group of people try to jump or beat up another person?	
0 times	53 (91.4%)
1-2 times	3 (5.2%)
3-4 times	1 (1.7%)
7 or more times	1 (1.7%)

Table A3.4. VIP survey 4, How much do you agree?

	Total (N = 63)
I believe that if someone hits you, you should hit back.	
Not at all	1 (1.7%)
A little bit	5 (8.6%)
Somewhat	10 (17.2%)
Quite a bit	6 (10.3%)
Very much	36 (62.1%)
I believe that to survive you should always be willing to fight back.	
Not at all	10 (17.2%)
A little bit	6 (10.3%)
Somewhat	18 (31.0%)
Quite a bit	8 (13.8%)
Very much	16 (27.6%)
I believe that to stay safe you should let people know that if they hurt you, yo	
Not at all	23 (39.7%)
A little bit	9 (15.5%)
Somewhat	14 (24.1%)
Quite a bit	3 (5.2%)
Very much	9 (15.5%)
I believe that if someone hurts you, you should forgive and forget.	
Not at all	18 (31.0%)
A little bit	14 (24.1%)
Somewhat	11 (19.0%)
Quite a bit	8 (13.8%)
Very much	7 (12.1%)
I believe that it is okay to hurt people if they hurt you first.	
Not at all	18 (31.0%)
A little bit	10 (17.2%)
Somewhat	14 (24.1%)
Quite a bit	5 (8.6%)
Very much	11 (19.0%)
I believe if someone hits you, you should turn around and walk away.	
Not at all	27 (46.6%)
A little bit	11 (19.0%)
Somewhat	16 (27.6%)
Quite a bit	2 (3.4%)
Very much	2 (3.4%)

Table A3.5. VIP survey 5, In past 30 days, what did you likely say/do when something bad/stressful happened?

	Total (N = 63)
I would try to think of ways to fix the problem or change the situation.	
Very unlikely	5 (8.6%)
Somewhat unlikely	2 (3.4%)
Neither unlikely nor likely	3 (5.2%)
Somewhat likely	29 (50.0%)
Very likely	19 (32.8%)
I would keep my feelings under control when I needed to.	
Very unlikely	3 (5.2%)
Somewhat unlikely	4 (6.9%)
Neither unlikely nor likely	4 (6.9%)
Somewhat likely	17 (29.3%)
Very likely	30 (51.7%)
I would try to calm myself down.	
Very unlikely	4 (6.9%)
Somewhat unlikely	5 (8.6%)
Neither unlikely nor likely	2 (3.4%)
Somewhat likely	20 (34.5%)
Very likely	27 (46.6%)
I would turn to my family or other adults to help me feel better.	
Very unlikely	12 (20.7%)
Somewhat unlikely	3 (5.2%)
Neither unlikely nor likely	4 (6.9%)
Somewhat likely	13 (22.4%)
Very likely	26 (44.8%)
I would talk to a friend about how I was feeling.	
Very unlikely	8 (13.8%)
Somewhat unlikely	6 (10.3%)
Neither unlikely nor likely	5 (8.6%)
Somewhat likely	19 (32.8%)
Very likely	20 (34.5%)
I would tell myself that things will get better.	
Very unlikely	8 (13.8%)
Somewhat unlikely	3 (5.2%)
Neither unlikely nor likely	2 (3.4%)
Somewhat likely	16 (27.6%)
Very likely	29 (50.0%)
I would try to see the good that could come out of the situation.	
Very unlikely	3 (5.2%)
Somewhat unlikely	4 (6.9%)
Neither unlikely nor likely	8 (13.8%)
Somewhat likely	16 (27.6%)

Very likely

27 (46.6%)

Table A3.6. VIP survey 6, In past 30 days, questions about stress

	Total (N = 63)
I felt stressed.	
Never	12 (20.3%)
Rarely	8 (13.6%)
Sometimes	18 (30.5%)
Often	13 (22.0%)
Always	8 (13.6%)
I felt that my problems kept piling up.	
Never	14 (23.7%)
Rarely	7 (11.9%)
Sometimes	18 (30.5%)
Often	12 (20.3%)
Always	8 (13.6%)
I felt overwhelmed.	
Never	13 (22.0%)
Rarely	11 (18.6%)
Sometimes	22 (37.3%)
Often	10 (16.9%)
Always	3 (5.1%)
I felt unable to manage things in my life.	
Never	19 (32.2%)
Rarely	12 (20.3%)
Sometimes	18 (30.5%)
Often	7 (11.9%)
Always	3 (5.1%)
Everything bothered me.	
Never	23 (39.0%)
Rarely	13 (22.0%)
Sometimes	12 (20.3%)
Often	4 (6.8%)
Always	7 (11.9%)
I felt under pressure.	
Never	24 (40.7%)
Rarely	8 (13.6%)
Sometimes	18 (30.5%)
Often	6 (10.2%)
Always	3 (5.1%)
I had trouble concentrating.	
Never	14 (23.7%)
Rarely	7 (11.9%)
Sometimes	16 (27.1%)
Often	9 (15.3%)
Always	13 (22.0%)
I felt I had too much going on.	
Never	13 (22.4%)

Rarely	5 (8.6%)
Sometimes	23 (39.7%)
Often	6 (10.3%)
Always	11 (19.0%)

Table A3.7. VIP survey 7, In past 30 days, questions about alcohol and drug use

	Total (N = 63)
Alcohol (beer, wine, liquor)?	
No days	56 (94.9%)
1-3 days	2 (3.4%)
7-14 days	1 (1.7%)
Marijuana/Weed?	
No days	47 (79.7%)
1-3 days	3 (5.1%)
4-6 days	1 (1.7%)
7-14 days	1 (1.7%)
15 days or more	7 (11.9%)
Prescription drugs (for which you do not have a prescription)?	
No days	59 (100.0%)
Crack/Cocaine?	
No days	59 (100.0%)
Heroin?	
No days	59 (100.0%)
Meth?	
No days	59 (100.0%)
Ecstasy?	
No days	59 (100.0%)
Other?	
No days	40 (97.6%)
1-3 days	1 (2.4%)

Table A3.8. VIP survey 8, In past 30 days, questions about law enforcement

	Total (N = 63)
have you been stopped by the police?	
0 times	53 (89.8%)
1 time	2 (3.4%)
2 times	3 (5.1%)
3 times	1 (1.7%)
how often have you been arrested (taken into police custody)?	
0 times	55 (93.2%)
1 time	3 (5.1%)
2 times	1 (1.7%)
how often have you been put in jail or locked up?	
0 times	56 (94.9%)
1 time	2 (3.4%)
2 times	1 (1.7%)

Table A3.9. VIP survey 9, In past 30 days, questions about school

	Total (N = 63)
What type of grades did/do you get?	
Mostly As	13 (22.4%)
Mostly Bs	29 (50.0%)
Mostly Cs	14 (24.1%)
Mostly Ds	1 (1.7%)
Mostly Fs	1 (1.7%)
Do you or your parents have plans to transfer schools in the next year?	
No	17 (28.8%)
Yes	28 (47.5%)
Not Sure	14 (23.7%)
How often do you go to school?	
5 days/week	50 (84.7%)
3-4 days/week	6 (10.2%)
1-2 days/week	1 (1.7%)
Never	2 (3.4%)
Have you ever been suspended, expelled, or involved in truancy? (choice=No)	
Unchecked	50 (79.4%)
Checked	13 (20.6%)
Have you ever been suspended, expelled, or involved in truancy? (choice=Suspende	
Unchecked	25 (39.7%)
Checked	38 (60.3%)
Have you ever been suspended, expelled, or involved in truancy? (choice=Expelled	
Unchecked	53 (84.1%)
Checked	10 (15.9%)
Have you ever been suspended, expelled, or involved in truancy? (choice=Truant)	
Unchecked	54 (85.7%)
Checked	9 (14.3%)
Have you ever been to a behavioral school?	
No	50 (84.7%)
Yes	9 (15.3%)
Have you experienced bullying in the past?	
No	24 (40.7%)
Yes	35 (59.3%)
Do you do any activities or are you involved in any programs after school?	
No	11 (19.0%)
Yes	47 (81.0%)
16. How many hours do you watch TV, play video games, or play on the computer on	

I dont	7 (11.9%)
Less than 1 hour	6 (10.2%)
1 hour	6 (10.2%)
2 hours	11 (18.6%)
3 hours	6 (10.2%)
4 hours	5 (8.5%)
5 or more hours	18 (30.5%)

Table A4.1. Perceived safety

	Total (N = 63)
Do you know the person who caused your injury?	
Yes	45 (76.3%)
No	12 (20.3%)
Dont Know	1 (1.7%)
NA/Hasnt returned	1 (1.7%)
Was this incident reported to the police?	
Yes	17 (28.8%)
No	37 (62.7%)
Dont Know	4 (6.8%)
NA/Hasnt returned	1 (1.7%)
Were the police helpful?	
Yes	11 (18.6%)
No	5 (8.5%)
Dont Know	4 (6.8%)
NA/Hasnt Returned	39 (66.1%)
Is there a police case currently open?	
Yes	8 (13.6%)
No	6 (10.2%)
Dont Know	7 (11.9%)
NA/Hasnt Returned	38 (64.4%)
Is the conflict resolved?	
Yes	38 (64.4%)
No	13 (22.0%)
Dont Know	7 (11.9%)
NA/Hasnt Returned	1 (1.7%)
Do you think that you will hurt someone because of what happened?	
Yes	7 (11.9%)
No	52 (88.1%)
Do you think that your friends or family will hurt someone because of what happe	
Yes	10 (16.9%)
No	46 (78.0%)
Dont Know	3 (5.1%)
Did you feel safe in the hospital?	
Yes	24 (41.4%)
No	1 (1.7%)
NA/Hasnt Returned	33 (56.9%)
Did you feel safe leaving the hospital?	
Yes	21 (36.2%)
No	3 (5.2%)
Dont Know	1 (1.7%)
NA/Hasnt Returned	33 (56.9%)
Do you feel safe where you are living?	

Yes	50 (84.7%)
No	5 (8.5%)
Dont Know	4 (6.8%)

Do you feel safe at school?

Yes	46 (78.0%)
No	10 (16.9%)
Dont Know	3 (5.1%)

Does this represent a change in your behavior since your injury?

No	43 (72.9%)
Yes	16 (27.1%)

As you are walking, do you ever choose your path because one way is safer than a

Yes	32 (54.2%)
No	24 (40.7%)
Dont Know	3 (5.1%)

How often do you change direction because your route seems unsafe?*

Never	24 (42.1%)
Daily	17 (29.8%)
Weekly	8 (14.0%)
Monthly	8 (14.0%)

Table 4.2. NES-Neighborhood Environment Scale

	Total (N = 63)
From my house I can walk to a park or playground where I enjoy myself, playing s	
Disagree	5 (8.5%)
Somewhat disagree	2 (3.4%)
Neutral	8 (13.6%)
Somewhat agree	7 (11.9%)
Agree	37 (62.7%)
There are plenty of safe places to walk or play/exercise outdoors in my neighbor	
Disagree	6 (10.2%)
Somewhat disagree	6 (10.2%)
Neutral	5 (8.5%)
Somewhat agree	14 (23.7%)
Agree	28 (47.5%)
Every few weeks, some kid in my neighborhood gets beat up or mugged.	
Disagree	28 (47.5%)
Somewhat disagree	6 (10.2%)
Neutral	9 (15.3%)
Somewhat agree	7 (11.9%)
Agree	9 (15.3%)
Every few weeks, some adult in my neighborhood gets beat up or mugged.	
Disagree	38 (64.4%)
Somewhat disagree	3 (5.1%)
Neutral	9 (15.3%)
Somewhat agree	3 (5.1%)
Agree	6 (10.2%)
In my neighborhood, I see signs of racism and prejudice at least once a week.	
Disagree	45 (76.3%)
Somewhat disagree	4 (6.8%)
Neutral	3 (5.1%)
Somewhat agree	3 (5.1%)
Agree	4 (6.8%)
In my neighborhood, many yards and alleys have broken bottles and trash lying ar	
Disagree	10 (16.9%)
Somewhat disagree	3 (5.1%)
Neutral	4 (6.8%)
Somewhat agree	13 (22.0%)
Agree	29 (49.2%)
I have seen people using or selling drugs in my neighborhood.	
Disagree	17 (29.3%)

Somewhat disagree	1 (1.7%)
Neutral	6 (10.3%)
Somewhat agree	6 (10.3%)
Agree	28 (48.3%)
In the morning or later in the day, I often see drunk people on the street in my	
Disagree	24 (40.7%)
Somewhat disagree	4 (6.8%)
Neutral	4 (6.8%)
Somewhat agree	6 (10.2%)
Agree	21 (35.6%)
Most adults in my neighborhood respect the law.	
Disagree	12 (20.7%)
Somewhat disagree	7 (12.1%)
Neutral	8 (13.8%)
Somewhat agree	14 (24.1%)
Agree	17 (29.3%)
Most people in my neighborhood respect the police.	
Disagree	19 (32.2%)
Somewhat disagree	7 (11.9%)
Neutral	13 (22.0%)
Somewhat agree	11 (18.6%)
Agree	9 (15.3%)
The police respect the people in my neighborhood.	
Disagree	18 (30.5%)
Somewhat disagree	5 (8.5%)
Neutral	14 (23.7%)
Somewhat agree	10 (16.9%)
Agree	12 (20.3%)
There are abandoned or boarded-up buildings in my neighborhood.	
Disagree	16 (27.1%)
Somewhat disagree	5 (8.5%)
Neutral	8 (13.6%)
Somewhat agree	9 (15.3%)
Agree	21 (35.6%)
I feel safe when I walk around my neighborhood during the day by myself.	
Disagree	6 (10.2%)
Somewhat disagree	5 (8.5%)
Neutral	11 (18.6%)
Somewhat agree	5 (8.5%)
Agree	32 (54.2%)
I feel safe when I walk around my neighborhood at night by myself.	
Disagree	18 (30.5%)
Somewhat disagree	8 (13.6%)
Neutral	9 (15.3%)

Somewhat agree	12 (20.3%)
Agree	12 (20.3%)
The people who live in my neighborhood, often damage or steal each others proper	
Disagree	40 (67.8%)
Somewhat disagree	1 (1.7%)
Neutral	4 (6.8%)
Somewhat agree	5 (8.5%)
Agree	9 (15.3%)
The people who live in my neighborhood always take care of each other and protec	
Disagree	9 (15.3%)
Somewhat disagree	5 (8.5%)
Neutral	12 (20.3%)
Somewhat agree	12 (20.3%)
Agree	21 (35.6%)
Almost every day I see homeless people walking or sitting around in my neighborh	
Disagree	20 (33.9%)
Somewhat disagree	2 (3.4%)
Neutral	7 (11.9%)
Somewhat agree	7 (11.9%)
Agree	23 (39.0%)
In my neighborhood, the people with the most money are the drug dealers.	
Disagree	26 (44.1%)
Somewhat disagree	4 (6.8%)
Neutral	7 (11.9%)
Somewhat agree	8 (13.6%)
Agree	14 (23.7%)
For many people in my neighborhood, going to church, mosque, or temple on Sunday	
Disagree	3 (5.1%)
Somewhat disagree	3 (5.1%)
Neutral	14 (23.7%)
Somewhat agree	11 (18.6%)
Agree	28 (47.5%)
The people who live in my neighborhood are the best people in the world.	
Disagree	21 (35.6%)
Somewhat disagree	13 (22.0%)
Neutral	15 (25.4%)
Somewhat agree	6 (10.2%)
Agree	4 (6.8%)

Table A5. Weapon carrying and access.

	Total (N = 63)
Were you carrying a weapon at the time of your injury?	
No	57 (96.6%)
Yes	2 (3.4%)
Have you ever carried a gun, knife, or club?	
No	4 (100.0%)
What did you carry? (choice=Gun)	
Unchecked	63 (100.0%)
What did you carry? (choice=Knife)	
Unchecked	63 (100.0%)
What did you carry? (choice=Club)	
Unchecked	63 (100.0%)
What did you carry? (choice=Other)	
Unchecked	63 (100.0%)
Could you get a gun?	
No	4 (100.0%)

Table A6.1. Student Engagement Scale. How do you feel about going to this school?

	Total (N = 63)
I like this school.	
Strongly disagree	1 (25.0%)
Disagree	2 (50.0%)
Agree	1 (25.0%)
I am proud to be a student at this school.	
Strongly disagree	1 (25.0%)
Disagree	2 (50.0%)
Agree	1 (25.0%)
I feel like I belong at this school.	
Strongly disagree	1 (25.0%)
Disagree	1 (25.0%)
Agree	2 (50.0%)
I usually finish my homework.	
Strongly disagree	1 (25.0%)
Agree	3 (75.0%)
I want to learn as much as I can at school.	
Agree	3 (75.0%)
Strongly Agree	1 (25.0%)
Getting good grades is very important to me.	
Strongly Agree	4 (100.0%)

Table A6.2. School Discipline Structure. Thinking about your school....

	Total (N = 63)
The school rules are fair.	
Strongly disagree	1 (25.0%)
Disagree	2 (50.0%)
Agree	1 (25.0%)
The punishment for breaking school rules is the same for all students.	
Disagree	2 (50.0%)
Agree	1 (25.0%)
Strongly agree	1 (25.0%)
Students at this school are only punished when they deserve it.	
Disagree	1 (25.0%)
Agree	2 (50.0%)
Strongly agree	1 (25.0%)
Students are suspended without a good reason.	
Strongly disagree	1 (25.0%)
Disagree	1 (25.0%)
Agree	2 (50.0%)
When students are accused of doing something wrong, they get a chance to explain	
Disagree	1 (25.0%)
Agree	3 (75.0%)
Students are treated fairly regardless of their race or ethnicity.	
Strongly disagree	1 (25.0%)
Agree	3 (75.0%)
The adults at this school are too strict.	
Disagree	2 (50.0%)
Agree	1 (25.0%)
Strongly agree	1 (25.0%)

Table A6.3. Student Support Scale | Respect for Students. Most teachers and other adults at this school....

	Total (N = 63)
...care about all students.	
Disagree	1 (25.0%)
Agree	2 (50.0%)
Strongly Agree	1 (25.0%)
...want all students to do well.	
Agree	3 (75.0%)
Strongly Agree	1 (25.0%)
...listen to what students have to say.	
Disagree	2 (50.0%)
Agree	2 (50.0%)
...treat students with respect.	
Strongly disagree	2 (50.0%)
Agree	2 (50.0%)

Table A6.4. Student Support Scale | Willingness to Seek Health. How much do you agree or disagree?

	Total (N = 63)
There are adults at this school I could talk with if I had a personal problem.	
Strongly disagree	1 (25.0%)
Agree	2 (50.0%)
Strongly agree	1 (25.0%)
If I tell a teacher that someone is bullying me, the teacher will do something t	
Disagree	1 (25.0%)
Agree	2 (50.0%)
Strongly agree	1 (25.0%)
I am comfortable asking my teachers for help with my schoolwork.	
Disagree	1 (25.0%)
Agree	3 (75.0%)
There is at least one teacher or other adult at this school who really wants me	
Agree	3 (75.0%)
Strongly agree	1 (25.0%)
If another student talked about killing someone, I would tell one of the teacher	
Strongly disagree	1 (25.0%)
Agree	2 (50.0%)
Strongly agree	1 (25.0%)
If another student brought a gun to school, I would tell one of the teachers or	
Agree	2 (50.0%)
Strongly agree	2 (50.0%)
I feel safe in this school.	
Strongly disagree	2 (50.0%)
Disagree	1 (25.0%)
Agree	1 (25.0%)

Table A6.5. Academic Expectations Scale. How much do you agree or disagree?

	Total (N = 63)
My teachers expect me to work hard.	
Agree	4 (100.0%)
My teachers really want me to learn a lot.	
Disagree	1 (25.0%)
Agree	3 (75.0%)
My teachers expect a lot from students.	
Agree	4 (100.0%)
My teachers do not really care how much I learn.	
Strongly disagree	1 (25.0%)
Disagree	1 (25.0%)
Agree	2 (50.0%)
My teachers expect me to attend college.	
Disagree	1 (25.0%)
Agree	2 (50.0%)
Strongly agree	1 (25.0%)

Table A6.6. Teasing and Bullying Scale.

	Total (N = 63)
Students in this school are teased about their clothing or physical appearance.	
Strongly agree	4 (100.0%)
Students in this school are teased or put down because of their race or ethnicity	
Disagree	2 (50.0%)
Agree	1 (25.0%)
Strongly agree	1 (25.0%)
There is a lot of teasing about sexual topics at this school.	
Disagree	1 (25.0%)
Agree	2 (50.0%)
Strongly agree	1 (25.0%)
Bullying is a problem at this school.	
Agree	1 (25.0%)
Strongly agree	3 (75.0%)
Students in this school are teased or put down about their sexual orientation.	
Disagree	1 (25.0%)
Agree	1 (25.0%)
Strongly agree	2 (50.0%)

Table A6.7. Victim Experiences Scale. Have any happened to you at or going to/from school?

	Total (N = 63)
A student stole my personal property.	
No	2 (50.0%)
One time	2 (50.0%)
A student physically attacked, pushed, or hit me.	
No	1 (25.0%)
One time	1 (25.0%)
More than once	2 (50.0%)
A student threatened to hurt me.	
No	2 (50.0%)
One time	2 (50.0%)
A student threatened me with a weapon.	
No	3 (75.0%)
One time	1 (25.0%)
A student said mean or insulting things to me.	
No	1 (25.0%)
One time	1 (25.0%)
More than once	2 (50.0%)

Table A6.8. Bullying Experiences Scale.

	Total (N = 63)
I have been bullied at school this year (since school started last fall).	
Never	2 (50.0%)
Once or twice	1 (25.0%)
More than once per week	1 (25.0%)
I have bullied others at school this year.	
Never	3 (75.0%)
Once or twice	1 (25.0%)
I have been physically bullied or threatened with physical bullying at school th	
Never	1 (25.0%)
Once or twice	1 (25.0%)
About once per week	1 (25.0%)
More than once per week	1 (25.0%)
I have been verbally bullied at school this year.	
Never	2 (50.0%)
Once or twice	2 (50.0%)
I have been socially bullied at school this year.	
Never	3 (75.0%)
Once or twice	1 (25.0%)
I have been cyberbullied at school this year.	
Never	4 (100.0%)
I have been bullied by teachers or other adults at school this year.	
Never	4 (100.0%)

Table B1. Subjects' home location characteristics (continuous variables relate to census block group; count variables relate to block).

	Total (N = 62)
Overall unemployment, percent	
Median (Q1, Q3)	11.2 (3.5, 16.2)
Households receiving public assistance, percent	
Median (Q1, Q3)	7.7 (2.4, 15.5)
Low income persons (100%–149% poverty level), percent	
Median (Q1, Q3)	34.9 (21.5, 54.9)
Low income persons (100%–149% poverty level), percent	
Median (Q1, Q3)	11.4 (8.3, 18.6)
High school dropouts, percent	
Median (Q1, Q3)	16.5 (10.4, 26.0)
Female-headed households with children under 18, percent	
Median (Q1, Q3)	18.3 (8.2, 25.7)
Renter-occupied houses, percent	
Median (Q1, Q3)	59.1 (48.7, 71.1)
Percent African American (non Hispanic)	
Median (Q1, Q3)	90.6 (42.4, 96.7)
Percent White (non Hispanic)	
Median (Q1, Q3)	4.9 (1.4, 18.3)
Percent Hispanic	
Median (Q1, Q3)	3.0 (0.0, 8.9)
Percent vacant	
Median (Q1, Q3)	19.1 (11.6, 24.7)
Percent without a vehicle	
Median (Q1, Q3)	45.5 (33.6, 55.7)
Percent householder who moved into unit within the last three years	
Median (Q1, Q3)	5.1 (1.1, 9.0)
Percent households with >1 person per room	
Median (Q1, Q3)	0.0 (0.0, 4.2)
Median household income (in 2017 inflation adjusted dollars)	
Median (Q1, Q3)	26820.0 (20079.0, 33902.0)
Population density (per sqmi)	
Median (Q1, Q3)	21861.7 (15300.8, 33122.3)
Median age	
Median (Q1, Q3)	32.6 (26.5, 38.3)
Count of Licenses and Inspections Code Violations	
0	56 (100.0%)
Count of Vacant Properties	
0	34 (60.7%)
1	18 (32.1%)
2	3 (5.4%)
3	1 (1.8%)

Count of Aggravated Assaults	
0	50 (89.3%)
1	5 (8.9%)
4	1 (1.8%)
Count of Burglaries	
0	52 (92.9%)
1	4 (7.1%)
Count of Disorderly Conduct	
0	56 (100.0%)
Count of Homicides	
0	55 (98.2%)
1	1 (1.8%)
Count of Narcotics	
0	53 (94.6%)
1	3 (5.4%)
Count of Vandalism	
0	46 (82.1%)
1	5 (8.9%)
2	5 (8.9%)
Count of Theft	
0	46 (82.1%)
1	8 (14.3%)
3	1 (1.8%)
6	1 (1.8%)
Count of Playgrounds	
0	56 (100.0%)
Count of Liquor Stores	
0	56 (100.0%)
Count of Bars	
0	56 (100.0%)
Count of Convenience Stores	
0	56 (100.0%)

Table B2. Testing for triggers of the onset of assault during subjects' school-day activities, comparing the context at the point of assault vs. the context just earlier.

	Total (N = 62)
With vs. without family member	
OR (95% CI)	0.3 (0.01, 4.15)
With vs. without multiple friends	
OR (95% CI)	1.0 (0.19, 5.37)
With any friends vs. alone	
OR (95% CI)	0.5 (0.05, 3.49)
With staff vs. without staff	
OR (95% CI)	1.0 (0.01, 78.50)
With staff vs. alone	
OR (95% CI)	1.0 (0.01, 78.50)
With any friend(s) vs. no friends	
OR (95% CI)	1.0 (0.01, 78.50)
On public transportation vs. foot	
OR (95% CI)	1.0 (0.01, 78.50)
On street vs. school property	
OR (95% CI)	5.0 (0.56, 236.49)
In cafeteria vs. classroom	
OR (95% CI)	1.0 (0.01, 78.50)
In hallway vs. classroom	
OR (95% CI)	2.0 (0.10, 117.99)
In hallway or cafeteria vs. classroom	
OR (95% CI)	2.0 (0.10, 117.99)
In school yard vs. classroom	
OR (95% CI)	1.0 (0.01, 78.50)
In school yard vs. inside school	
OR (95% CI)	0.17 (0.004, 1.37)