Safe Neighborhoods, Bright Futures

Investigating the Relationship between Urban Crime and College Enrollment in Chicago's Public School System

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May 10, 2024

Prepared by

the Paul Douglas institute

In partnership with

UCHICAGO URBANLABS CRIME LAB

MISSION STATEMENT

The Paul Douglas Institute is a student-run, public policy think tank based at the University of Chicago. Inspired by the life and work of professor and Senator Paul H. Douglas, we channel public policy interest on campus into solution-orientated research projects that allow students to make an impact on the legislative process. To this end, we use a multidisciplinary approach to produce rigorous, data-driven social science research that is innovative, practical, and free from political affiliation. We often work with legislators and civic organizations, and welcome both research commissions and partnerships.

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Abstract

Understanding the impact of different types of violent crime on college enrollment is crucial for developing effective strategies to support educational attainment in urban environments. Thus, this research paper investigates the relationship between violent crime and college enrollment in public school districts of Chicago, examining key distinctions between high, medium, and low crime areas. Theoretical frameworks, including social isolation, legal socialization, and strain theory, offer insights into the underlying mechanisms driving the relationship between crime and college enrollment. We analyze data from the official database of crime collected by the Chicago Police Department and Chicago Public Schools, which we obtained through a partnership with the Crown School of Social Work. We find a notable trend of increasing enrollment coupled with decreasing persistence in high and medium-crime areas, suggesting a need for targeted interventions. Proposed solutions aim to address the lack of support systems and the complexities surrounding college enrollment. In conclusion, this research underscores the interconnectedness between crime and education, emphasizing the importance of addressing socio-environmental factors to foster educational success in urban communities.

Introduction

The Chicago Public School (CPS) system is the fourth-largest school district in the United States, supporting over 300,000 students (Sun-Times Staff, 2022). Despite navigating challenges ranging from recovering from the COVID-19 pandemic to ensuring adequate preparation for standardized testing, the district has shown steady improvement in academic performance city-wide (Chicago Public Schools, 2018). However, amidst these strides, CPS students find themselves negotiating a landscape shaped not only by academic ambition but also by the stark reality of urban violence. Chicago boasts the reputation of being the nation's "murder capital" and with 644 killings and 36 mass shootings in 2023 alone, their status has remained unchanged (Vallas, 2024). Concerns about safety coupled with academic tribulations may act as a formidable barrier to educational achievement, significantly impacting the academic trajectories of students navigating these environments, especially in regards to pursuing higher education. Higher education can serve as a beacon of hope, highlighting a pathway to upward mobility, economic opportunity, and personal fulfillment (Kruss et al., 2015). Yet, the overwhelming presence of violent crime can over-shadow such aspirations, complicating the journey toward educational attainment. Safety concerns exacerbated by the prevalence of crime within neighborhoods and coupled with the academic challenges inherent in urban schooling environments, collectively pose formidable barriers to students' educational success.

It is for these reasons that this research paper seeks to explore the following inquiry: **How does the prevalence of violent crime within Chicago's urban landscape impact college enrollment among public school students?** Through a comprehensive analysis of datasets between violent crime and college enrollment by district as well as the application of theoretical frameworks and similar studies, this study seeks to illuminate the multifaceted dynamics shaping the educational experiences of students in urban settings characterized by pervasive crime. By delving into the nuances of this relationship, we aim to provide valuable insights that inform evidence-based strategies for promoting equitable access, and empowerment, to pursue higher education.

Background

Chicago Demographics

Chicago is one of the most racially and economically segregated metropolitan areas in the world (Grabinsky & Reeves 2015). The vast majority of the city's Black and Hispanic populations is sequestered in the city's densely-populated South and West sides. These regions have historically struggled with high rates of unemployment, crime, and poverty, and have over the years faced systematic disinvestment and a lack of economic opportunity. In 2013, the median annual income in Chicago was approximately $70,000, although there was a great degree of inequality in this figure: the median annual White household income was over $100,000; whereas Hispanic and Black households earned less than half this figure (Grabinsky & Reeves 2015). In 2013, 46 percent of CPS elementary schoolers were Black, 40 percent were Hispanic, and 10 percent were White (To&Through Online Tool 2022), compared to approximately 18 percent, 20 percent, and 50 percent respectively of the population of Chicago as a whole (Chicago Metropolitan Agency for Planning, 2016). Educational inequalities in the CPS system, therefore, predominantly affect Black and Hispanic students, who are also more likely to live in economically disadvantaged households in historically disinvested neighborhoods.

A Recent History of Chicago Public Schools Reforms

The CPS district has a long and storied history as one of the largest public school systems in the country, from its inception in 1837 to the present day. Nearly as long as the CPS district has existed, however, it has been plagued by criticisms of its quality and cost-efficiency; in 1987, the U.S. Secretary of Education William Bennett famously called the CPS system the "worst in the nation." (NY Times, 1987) Following this statement, a string of leaders have implemented a near-endless list of reforms aimed at resolving these issues. These include, notably, the 1988 Chicago School Reform Act, which decentralized the entire school district and gave principals and Local School Councils elected by the school community considerable discretion and oversight over school operation. In 1995, the system was restructured yet again, this time shifting authority back to the top level with the reintroduction of the mayoral-appointed Board of Education. The 1995 reform act also replaced the Superintendent of CPS with a Chief Executive Officer, also appointed by the mayor.

Under the first-ever CEO of CPS, Paul Vallas, the system underwent further shocks. Vallas first passed a student promotion policy that required students in the third, sixth, and eighth grades to attain a minimum standardized test score to be promoted to the next grade; the policy also held schools with large degrees of low scorers accountable for their students' performance, subjecting them to review, intervention, and in certain cases, restructuring them entirely. Vallas's tenure was characterized by this sharp focus on accountability and performance as measured by test scores; the tenure of his successor, Arne Duncan, quickly became characterized by school closings.

Renaissance 2010

Renaissance 2010 was introduced by new CEO Arne Duncan in 2001, and it was with this policy still fresh in the minds of the Chicago public that the 2013 school closings were announced. "Ren 10" aimed to open 100 new schools in the next ten years, and the district saw 155 new schools open, with 82 closing in the same period, until Duncan stepped down as CEO in 2009. The focus of Renaissance 2010 was on charter and other non-traditional schools, and the majority of schools that closed under this reform effort were small neighborhood schools. Frequently, schools were "restructured" instead of closed altogether, with all the teachers and staff replaced and the school campus turned over to a (private) charter organization. In practice, Ren 10 effectively privatized schools in economically disadvantaged areas by closing neighborhood schools and replacing them with charter schools that were subject to less oversight and enjoyed a great deal more autonomy in their operation than the traditional schools they replaced (Ayers & Klonsky 2006).

Ren 10 received criticism primarily for the great deal of chaos and confusion it caused to students and families, and the opacity of the procedures that selected schools for closing. The project was funded almost entirely by large private donations, including notably a sizable contribution from the Bill and Melinda Gates Foundation. This combination of a lack of transparency and an apparent pandering to external interests fostered a lack of trust in the central office's strategic plan from a variety of key stakeholders in the Chicago school environment. This ranges from community members such as the group of Little Village residents who had protested in 2001 for a new school in their neighborhood and refused to "turn over" this new school to Ren 10, to scholars such as Professor William Ayers, the founder of the Small Schools Workshop at UIC, who criticized Ren 10 in 2006 for "co-opting the language of reform" in bad faith (Ayers & Klonsky 2006).

Despite the criticism received by Ren 10's focus on school closings, it ushered in a new era of CPS school reform: the "portfolio era," (Lutton et. al. 2011) where the district's schools were managed like an investment portfolio, with underperforming schools closed and replaced with new ones or new investments in other citywide schools.

Change in Student Outcomes

This string of reforms appears to have had limited impacts on student experiences and performance. A 2011 report by the Consortium on Chicago School Research found that, while graduation rates and test scores increased "dramatically" from the pre-decentralization era to the Ren 10 era of reform, most CPS high school graduates were unprepared academically for college. Although the majority of students met state learning standards, these were far below nationwide standards such as the ACT, limiting CPS students' prospects of admission to four-year colleges. Racial gaps also widened, with White and Asian students seeing the greatest improvements in outcomes, and Black male students the lowest (Luppescu et. al. 2011).

Neighborhood Crime Affecting Youth

Understanding the impact of policing in schools necessitates recognition of the broader context of how law enforcement presence affects students in their neighborhoods. The sense of

threat from police is ingrained from an early age and is often exacerbated by the prevalence of crime in their communities. Research indicates that children residing in violent neighborhoods are more likely to experience trauma, leading to difficulties in learning and an increased risk of adverse academic outcomes such as high school dropout and low test scores. Additionally, these experiences can manifest in mental health challenges including depression, attention problems, and disciplinary issues within school settings. Burdick-Will's comprehensive study of students enrolled in Chicago Public Schools between 2002 and 2010 sheds light on the extent of exposure to violence among high school students. Analyzing administrative data from the school system, crime statistics from the Chicago Police Department, and school surveys from the University of Chicago Consortium on Chicago School Research, Burdick-Will observed that high school students in Chicago experience an average of approximately 70 violent crimes annually within close proximity to their residences (Hub 2018). However, children with heightened exposure to violence often endure twice that number. These crimes encompassed a range of offenses, including homicides, sexual assaults, batteries, assaults, and robberies.

Despite the diverse student population in CPS, with about half of students being African-American and a third Hispanic, schools situated in neighborhoods with elevated levels of violence were overwhelmingly composed of African-American students, comprising over 94 percent of the student body. Highlighting the severity of the situation, the University of Chicago Crime Lab's findings in the summer of 2023 revealed a troubling 50 percent increase in shooting victimizations among school-aged youth (17 years and younger) since 2019. Alarmingly, over 90 percent of these victims were not enrolled in school, indicating the pervasive impact of neighborhood violence on the broader community (Illinois Policy 2023). The ambient crime levels in students' neighborhoods not only influence their day-to-day safety but also shape their long-term educational decisions, potentially deterring them from pursuing college due to concerns about community safety and well-being.

Literature Review

Understanding Violent Crime

In defining the parameters of specific crimes that significantly impact student safety, it is crucial to understand their legal foundations. Homicide, especially first-degree murder, involves the intentional killing of an individual without lawful justification. This can include instances where the perpetrator intended to cause significant harm or knew that their actions were likely to result in death or serious injury. Criminal sexual assault is defined as acts of sexual penetration carried out under coercive conditions, including force, threat of force, or when the victim cannot comprehend or consent to the act due to incapacitation or a manipulated trust relationship. Robbery occurs when an individual forcibly takes property from someone else, with aggravated robbery expanding this definition to include the use of a weapon or administering a controlled substance to the victim without consent. These legal distinctions are vital for categorizing and addressing the various forms of misconduct that can affect students both within and outside of school environments and their communities.

In exploring the relevance of different types of violent crime, it is apparent that robbery, aggravated assault, and aggravated battery are most pertinent. These crimes are often directly linked to the fears and experiences of students both within and surrounding school environments. For instance, incidents like robbery and assaults with or without weapons are frequent topics of concern among students, highlighting the immediate threats they face in their daily school life. While homicide is a critical aspect of violent crime, it is frequently categorized separately from general violent crime data, which might exclude it from some studies or discussions focusing on school settings. The distinction often lies in the different nature and perceived impact of homicide compared to other forms of violent crime, which are more common in school contexts (Green, 2020).

Sexual assault also plays a significant role; however, its inclusion in research varies. It is not always explicitly mentioned, or it might be under-researched, leading to less certainty about its prevalence and impact within the scope of general violent crime statistics. This variability suggests a gap in data that could be crucial for understanding the full spectrum of violence affecting students. Furthermore, the integration of firearms into violent incidents, as highlighted in discussions of school violence, underscores the complex dynamics of youth violence in urban settings. Guns are not only tools of aggression but also symbols of power and control, embedded within a broader "ecology of danger" that includes street gangs and pervasive community violence (Fagan, 1998). This context is vital for understanding why certain types of violent crime are more relevant to research focusing on school and community safety, as it directly influences student perceptions and behaviors related to safety and threat.

Social Theories Intersecting with Violent Crime

With an established understanding of violent crime, it is important to take into account the role of behavioral and societal dynamics. Two social theories, in particular, became the most relevant when

understanding the intersection the significance violent crime can have on young students' college enrollment: social isolation and strain theory.

Significance of Social Isolation:

Social isolation ultimately occurs through the absence of social interactions, contacts, and relationships with others. This is an especially pertinent issue in neighborhoods troubled by crime and is a pressing issue with far-reaching implications, particularly for students. When crime rates are high, communities often become fragmented and distrustful, leading residents to withdraw from communal activities and social interactions. This isolation can be especially detrimental for young people, who may find themselves without the support networks that are crucial for personal and educational development. Without mentors or role models, students are less likely to be aware of opportunities beyond their immediate environment, such as higher education or career pathways (Nazeer 2020). Instead, in the absence of positive influences and due to increased exposure to criminal behavior, they may be more inclined to adopt harmful habits or make decisions that align with the negative elements around them.

This cycle of isolation and limited opportunity creates a self-perpetuating problem where disconnection and negative influences continue to dominate, keeping these communities in a cycle of hardship and poor choices. As a direct consequence, students' academic performance suffers. They become less engaged in their education and more susceptible to antisocial behavior. These effects are reflected in the distinct differences in college enrollment rates observed between neighborhoods with varying levels of crime. In areas with higher crime rates, fewer students pursue higher education, as the environment discourages academic aspirations and promotes alternative, often negative, pathways.

The impact of violent crime in community neighborhoods can significantly influence students' decisions regarding enrollment in higher education institutions. A study of the Washington Park neighborhood showed a stark contrast in college enrollment trends compared to areas with lower crime rates. From 2015 to 2020, while the college enrollment rate among high school seniors in Washington Park dropped from 60 percent to 54.4 percent, Woodlawn, a nearby neighborhood, saw an increase from 77 percent to 80 percent. This discrepancy aligns with the higher crime rates in Washington Park, where there are approximately 321 crime reports per 1,000 people, compared to Woodlawn's 290 per 1,000 people. The presence of crime contributes to social isolation and a diminished support network, leaving students less aware of educational opportunities and more inclined toward negative influences.

Moreover, the pervasive environment of violence affects children's psychological health, leading to symptoms like aggression and depression that hinder cognitive development and academic engagement. Chronic stress from living in such neighborhoods not only impacts learning abilities but also shapes parenting styles and social behaviors in ways that might be counterproductive to academic success. As students adopt more insular or defensive behaviors to cope with their surroundings, their academic performance may suffer, thereby reducing their inclination to pursue higher education. This broader context highlights the need for more research

on how neighborhood crime affects long-term educational paths, particularly as students transition to higher education.

Strain Theory

One of the most foundational explanations of criminal behavior is strain theory. Introduced by sociologist Robert King Merton in 1938, Strain Theory takes a multi-faceted approach to exploring the plethora of factors that contribute to and determine rates of crime in certain neighborhoods (Alliance for Excellent Education, 2013). However, this strain may be either structural or individual in nature—structural, meaning that the nature of societal structures may not provide people with the resources that they need, and individual, implying that individuals may act in certain ways to serve their immediate needs.

The structural nature of strain manifests itself in a variety of distinct environmental factors, including, but not limited to: socioeconomic status, substance abuse, childhood trauma, and abusive family situations. Primarily, many of the structural concerns leading up to crime arise from under-resourced or impoverished neighborhoods—yet, socioeconomic inequality does not exist in a vacuum. Rather, it is often coupled with issues such as racism, over-policing, and lack of access to educational resources. In states such as California, their ranking on the educational attainment list correlates largely with their rate of violent crime. On the other hand, Minnesota's larger investment in increasing education rates is met with a lower rate of violent crime.

While there may be some confounding variables, Census and FBI data (Justice Policy Institute, 2007) ultimately reports that such a correlation does exist. Further, data from the Alliance for Excellent Education (Encyclopedia Britannica 2024) asserts that if states such as California were to implement policies to increase the graduation rates of male students, the results would be noteworthy: the state would have new net earnings of over 200 million, and save over two billion dollars in crime-related spending. This is because investing in education is not only far cheaper, but it pays—those who graduate high school become more likely to build careers and contribute to the economy, and less likely to turn to crime—a path which often happens when youth feel as if they have no other options. Why is this true? The Alliance furthers that "the national average for educating a student is $12,643 per year while the annual state average cost to house an inmate is more than double that amount, at $28,323."

This data is especially pertinent on multiple fronts: first, it demonstrates that there is a tie between environmental factors and criminal acts—this is critical to establish because it not only explains why crime may occur, but it provides grounds for solutions: states can do something to change the outlook on crime. Finally, the literature surrounding Strain Theory and case studies of Minnesota and California provide ample framework for the collection of crime data in Chicago and explain the critical nuance and background regarding what drives individuals towards criminal behavior.

Violent Crime Affecting Education Attainment

With a more in-depth understanding of the wide-reaching effects of violent crime and the lives of young people, it is especially important to understand its connection to educational performance. A significant body of literature shows that adverse childhood experiences, and especially exposure to violence and crime, has a significant effect on educational performance, attainment, and socioeconomic outcomes in adulthood, especially in Chicago and other urban settings in the United States. Sharkey et al (2014) find that, in New York, students who witnessed or were victims of a violent crime on their own block in the week before a test saw significantly lowered scores on a standardized test as compared to those who did not experience that violence during that period; Burdick-Will (2018) finds that, in Chicago, individual academic performance suffers even when a student's peers or classmates within a school are exposed to crime. O'Brien & Contreras (2021) show that crime at the neighborhood level has an even more significant effect than street-level crime on student performance in Boston. These studies, along with several others, demonstrate that exposure to crime, specifically violent crime and within a student's neighborhood, have a significant effect on their academic performance, usually on standardized test scores.

There also exist several causal mechanisms by which this effect might function. Burdick-Will et al (2010) outline a few of these: the quality of local public schools in low-income, high-crime areas might be comparatively lower than those in more affluent neighborhoods; the social networks of peers and adults experienced by a student in low- or high-income neighborhoods are both qualitatively and quantitatively different in terms of their achievement and involvement in education; and exposure to crime and violence may cause stress, trauma, and other mental health problems that negatively impact a student's schooling outcomes and attainment. They further find in a quasi-experimental study across several U.S. cities that the impacts of living in low-crime versus high-crime neighborhoods in Chicago on students' test scores are substantially higher than comparable impacts in other large cities like Boston or New York.

Comparatively less studied than impacts on test scores, however, are the impacts of violent crime on educational attainment. Crews (2009) describes crime as a "barrier to educational opportunity and attainment," and suggests that individuals who are exposed to high degrees of violent crime are more likely to commit violent crimes themselves (a finding supported by Damm & Dustman [2014]), which might in turn prevent them from continuing their education. Macmillan and Hagan (2004) suggest that being the victim of a violent crime in adolescence diminishes one's "educational self-efficacy," which is the psychological phenomenon of the degree of control that individuals feel they have over their environment (Bandura 1997). This concept of educational self-efficacy is directly linked to investments in educational processes; a lower degree of educational self-efficacy may be expressed in "lowered attitudinal and behavioral investments in education" — commitment toward schooling, attendance, classroom performance, and ultimately, discontinuation of education altogether.

College enrollment, specifically, is an interesting and useful metric in this regard, as a signal of commitment to continuing education for four years, which reflects a significant investment (or prospective investment) in education, which in turn suggests a relatively high degree of educational

self-efficacy. It might also signal an above-average commitment to education even during high school and previous years of schooling: 65 percent of CPS students enrolled in college in 2021-22 as compared to 86 percent that graduated from high school in that same year; simplistically, the students that enrolled in colleges might have been higher-achieving given that college enrollment requirements are generally higher than CPS graduation requirements. However, the empirical literature examining crime as a determinant of the choice to continue education is lacking; our project will hopefully serve as a first step in this direction.

Methodology

For our project methodology, we gathered official data on violent crime from the Chicago Police Department and Chicago Public Schools. Subsequently, we conducted regression analyses, alongside other activities, to explore the relationship between violent crime and college enrollment. It is crucial to emphasize that our study does not aim to establish a causal relationship between violent crime and college enrollment, but rather to identify trends and patterns. Therefore, while we acknowledge the significance of violent crime in this context, it is essential to recognize that it may serve as an indicator of broader environmental challenges that could impact college enrollment. For instance, factors like socioeconomic status, which have not been fully accounted for in this project, may also play a significant role in determining students' likelihood of pursuing higher education. Thus, while violent crime rates can provide insights, they should be viewed within the broader context of socioeconomic factors and other obstacles that students may face.

Data Collection

As we were analyzing crime and education in Chicago, we used official crime data from the Chicago Police Department (CPD) as well as Chicago Public Schools (CPS) which we were able to obtain through partnering with the Crown School of Social Work. From this data though, there were many measures of crime and educational attainment that we had to sift through. With crime, we ultimately decided on six categories of violent crime that had enough data points to help with statistical significance: homicide, sexual assault, robbery, aggravated assault, aggravated battery, and general violent crime. We were then able to filter CPD data to only look at these categories of data, which simplified the data analysis. We chose to analyze violent crime data from 2015 to 2019 using the CPD data to avoid potential trends influenced by the COVID-19 pandemic. Additionally, these years coincided with the period of the CPS dataset containing the highest number of data points on college enrollment.

With our education data, we opted for college enrollment and college persistence as our two metrics, as other options like standardized testing were subject to fluctuations in the difficulty every year which was difficult to control for, while the college enrollment process remained more consistent from year-to-year and had less confounding variables. For our data analysis, we opted to look for a correlational relationship rather than a causal one, as we identified a number of confounding variables that could affect our analysis. This included income, population density, and race. We also found it difficult to determine the direction of causality and without random assignment or a control group, we were unable to determine a causal relationship.

Main Data Activities

An analysis of the effects of crime on education was completed by combining the data from the CPD with the CPS. A histogram was used to highlight the crime rate by different districts which provided insight for organizing districts into categories of high, medium, or low crime rates, relative to one another. These histograms were created using Seaborn, a statistical data visualizer, and Excel.

Stratified sampling was then employed to randomly choose two districts from each category for further analysis. With six different districts, a linear regression was used to analyze the six different crimes and their potential relationship with college enrollment percentage. This type of modeling was used due to its ability to highlight potential trends within the sample data that could then be extrapolated to understand general trends within the population. Specifically, the model calculated a linear line that best represented the relationship between the two variables. This model also depicted a confidence interval with a blue shade to present a wider scope for these estimations. Using Python and its associated scipy library, the p-value for the relationship between different crimes and college enrollment percentages were calculated to indicate the significance of the data.

Choosing the Districts:

To divide the 22 districts, abiding by the CPD Districts, into three groups that had high, medium, and low violent crime rates, we first identified the quartiles of crime rate, including the outliers. Afterward, the districts were sorted according to the quartiles and outliers such that the districts that we identified to have a 'high' crime rate would be the ones above the upper quartile, including the outlier. The 'medium' districts were within the range between the upper bound of the upper quartile and the lower bound of the lower quartile. Consequently, the 'low' districts had crime rates that were below the lower quartile, including the outliers as well. Having sorted the districts into three groups for each type of violent crime, we measured the consistency of each district in groups, since most, if any all, districts displayed consistent levels of violent crime rates in general. Therefore, measuring the mode of districts within each three groups, we assigned Districts 11 and 6 as high, Districts 9 and 25 as medium, and Districts 16 and 18 as low.

Neighborhoods:

District 11: District 11 contains neighborhoods such as West Garfield Park, Fifth City, and Homan Square.

District 6: District 6 contains neighborhoods such as Belmont Heights, Schorsch Village, and Norwood Park.

District 9: District 9 contains neighborhoods such as Chinatown and McKinley Park.

District 25: District 25 contains neighborhoods such as Belmont Central, North Austin, and Kelvin Park.

District 16: District 16 consists of neighborhoods such as Jefferson Park, Dunning, and Edison.

District 18: District 18 contains neighborhoods such as River North, Old Town Village, and Sheffield Neighbors.

Data Analysis and Results

Summary Statistics at the Chicago Level

The data for crime rates was drawn from the Chicago Police Department (CPD) via the City of Chicago Data Portal and is broken down into 24 police districts (note there is no District 13). The data spans the years 2015-2019, and further includes rates for several different kinds of violent crime: battery, robbery, assault, criminal sexual assault, and homicide. Analyzing general crime rates gives that the highest total crime rate was 30,637 crimes committed from 2015 to 2019 in District 11, while the lowest total crime rate was 6,237 crimes in District 20, and the median crime rate was 19,247. The table below gives a summary of the crime rates for each district by the type of crime.

Table 1: Total Crime by Chicago Police Department District (2015-2019)

District	Total Crime	Battery	Robbery	Assault	CSA	Homicide
1	13797	7739	2211	3560	257	30
2	18937	11249	2700	4555	300	133
3	23837	14858	2961	5510	325	183
4	26358	16411	2581	6811	360	195
5	20509	12806	1941	5269	278	215
6	29401	17794	3673	7283	408	243
7	27238	17238	2880	6495	342	283
8	24864	14874	3268	6144	379	199
9	19557	11747	2612	4747	247	204
10	21774	13865	2662	4734	318	195
11	30637	18755	4526	6579	412	365
12	17284	9868	2670	4286	356	104
14	11256	6499	1827	2679	204	47
15	20138	12684	2646	4285	291	233
16	11041	7108	690	3022	196	25
17	9968	6185	1349	2198	194	42
18	13379	8023	2160	2775	399	22
19	13210	7992	1961	2815	408	34
20	6237	3967	585	1478	192	15
21	None	None	None	None	None	None
22	12540	7733	1269	3255	175	108
23	None	None	None	None	None	None
24	10935	6830	1336	2502	217	50
25	21901	13585	2646	5138	380	152

Notably, Districts 6, 7, 8, and 11 had consistently higher crime rates across all the categories, indicating that these areas may be less safe than average. On the other hand, Districts 14, 17, 20, and 24 had consistently lower crime rates, which indicates that they may be safer than other areas.

The education data, which is college enrollment rates, was drawn from the Chicago Public Schools (CPS) system through their webpage "District Data." It was broken down by school, which we mapped to the CPD police districts to obtain college enrollment rates by police district, and it is also shown as a five-year average (from 2015-2019). College enrollment is furthermore represented as the percentage of students in each class year who enroll in college. Notably, several districts are missing data as schools could not always be perfectly mapped to their corresponding districts. Excluding those districts with missing data, the highest college enrollment rates were in Districts 18 and 19, with 77.54 percent and 77.95 percent of students enrolling in college respectively, while the

lowest were in Districts 3 and 6, with 40.56 percent and 41.4 percent respectively. The median enrollment was 60.87 percent. The table below gives a summary of the college enrollment rates by district:

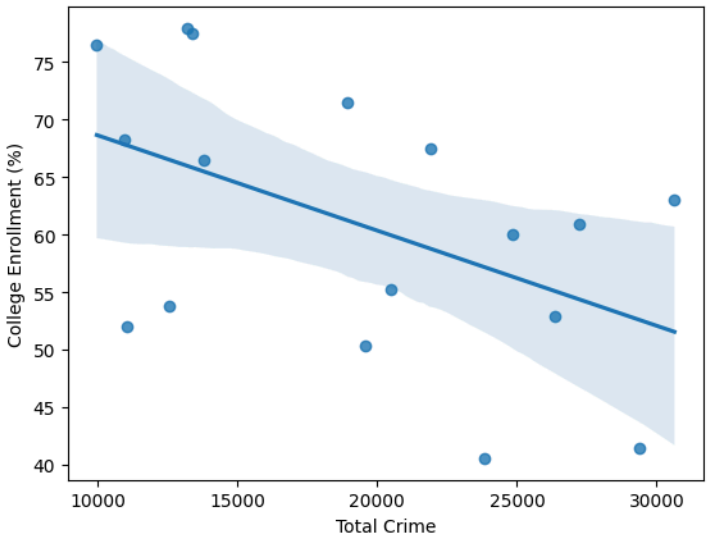
Table 2: Total Average (Avg) College Enrollment Rate by Chicago Police Department District (2015-2019)

CPD District	Total Avg District Enrollment
1	66.51%
2	71.50%
3	40.56%
4	52.95%
5	55.25%
6	41.40%
7	60.87%
8	60.03%
9	50.29%
10	None
11	63.00%
12	None
14	None
15	None
16	52.03%
17	76.54%
18	77.54%
19	77.95%
20	None
21	None
22	53.79%
23	None
24	68.31%
25	67.43%

When comparing the violent crime and college enrollment rates, we see that some of the districts with the most violent crime also had the lowest college enrollment rate. One such example of this was District 6 with its notable position as one of the districts with the highest amount of violent crime (29,401 recorded cases), yet the lowest rates of college enrollment among its student population (42.1 percent).

Next, we examined the trends between the total number of recorded instances of violent crime against college enrollment rates by CPD district, which led us to produce the following figure:

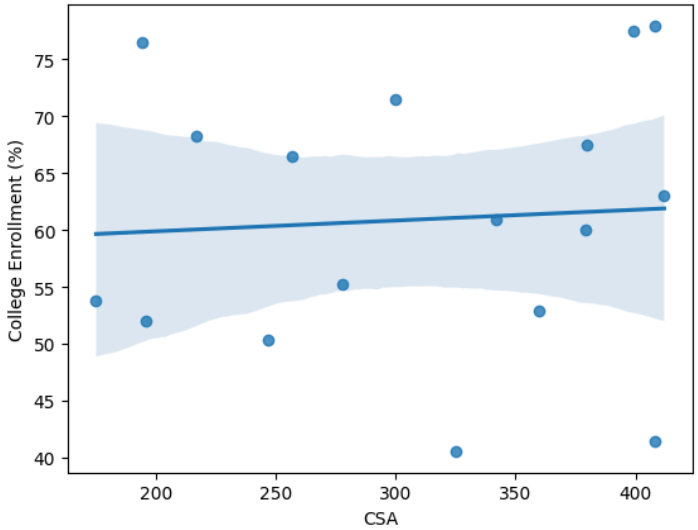
Figure 1: Total Crime Against College Enrollment by CPD District (2015-2019)



A discernible negative trend emerges from Figure 3 as a negative correlation between total crime and college enrollment arises. As the total crime in a CPD district increases, the percentage of college enrollment tends to decrease. Thus, this trend suggests that higher crime rates within these districts are associated with lower college enrollment rates among students.

Just as we noticed a negative correlation between total crime and college enrollment rates, this was also apparent in each other subtype of crime and college enrollment (refer to the Appendix), except for criminal sexual assault, which was displayed as follows:

Figure 2: Criminal Sexual Assault (CSA) Cases Against College Enrollment by CPD District (2015-2019)



Upon examination of Figure 2, it appears that there is no discernible correlation between criminal sexual assault instances and college enrollment rates. The trendline remains relatively

horizontal, perhaps even slightly trending upwards, suggesting that the increase in sexual assault cases does not significantly influence the percentage of students enrolled in college across different CPD districts.

However, this regression had a p-value of 0.80, making it not statistically significant at the 5 percent level. Yet, this was not the only type of crime that lacked statistical significance as seen in Table 1 below:

Table 3: R-values and P-values of Total Crime and Subtypes of Violent Crimes Regressions

	r-value	p-value
Total Crime	-0.4930	0.044363
Battery	-0.5046	0.03884
Robbery	-0.2377	0.358354
Assault	-0.5827	0.014108
Criminal Sexual Assault	0.0678	0.796111
Homicide	-0.4865	0.047667

From Table 1, some other notable trends came to focus. For instance, some types of violent crimes, such as Battery, Assault, and Homicide, characterized by their direct physical harm to individuals, demonstrate significant negative correlations with college enrollment. This suggests that areas with higher rates of these types of violent crimes tend to have lower college enrollment rates among students.

Conversely, Robbery and Criminal Sexual Assault display weaker or nonsignificant associations with college enrollment. While still concerning, these findings suggest that the impact of these types of violent crimes on college enrollment may be influenced by additional factors beyond the direct occurrence of the crime itself. For example, Robbery, which involves the theft of property through force or threat, may lead to heightened perceptions of insecurity among students and their families. However, its weaker correlation with college enrollment implies that other factors, such as socioeconomic status or access to support services, may also play a role in shaping one's pursuance of college enrollment.

Ultimately, for crime rates and college enrollment aggregated across 2015-2019 for each district, there was a generally negative correlation - as crime rates went up, college enrollment went down.

High Crime Districts

District 11

District 11 contains neighborhoods such as West Garfield Park, Fifth City, and Homan Square. It most consistently showed very high violent crime rates across the whole data as its battery, robbery, homicide, and assault rates were beyond the outlier for each section, as seen in the figures below:

Figure 3: Total Cases against College Enrollment in District 11(2015-2019)

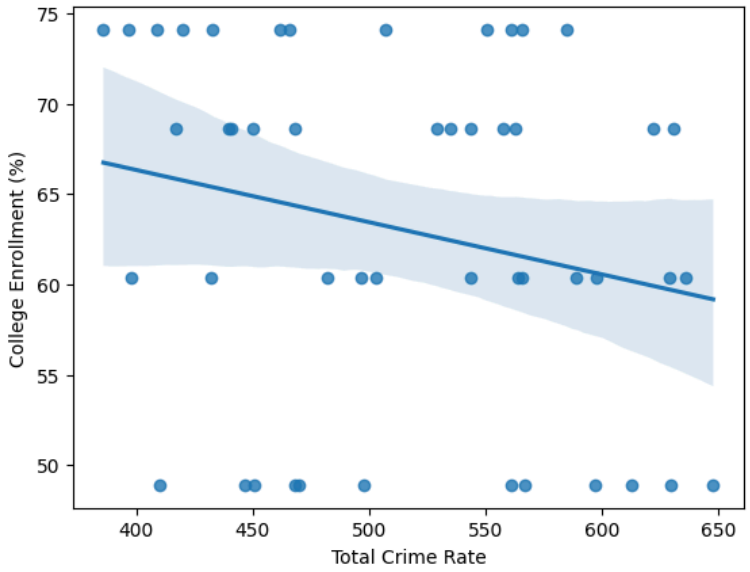


Figure 4: Cases of Robbery against College Enrollment in District 11(2015-2019)

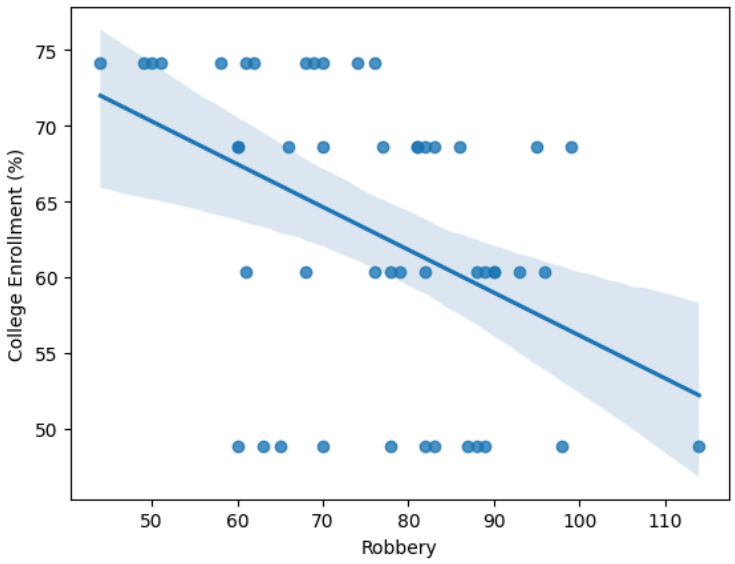


Figure 5: Cases of Homicide against College Enrollment in District 11(2015-2019)

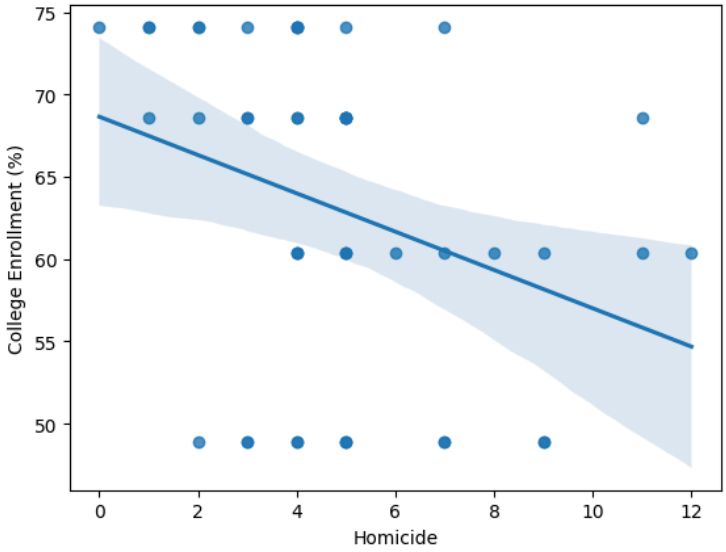


Table 4: R-values and P-values of Total Crime and Subtypes of Violent Crimes Regressions (District 11)

	r-value	p-value
Total Crime	-0.2306	0.114862
Battery	-0.0954	0.518895
Robbery	-0.4397	0.001766
Assault	-0.2484	0.088627
Criminal Sexual Assault	-0.01422	0.334955
Homicide	-0.3236	0.024846

The analysis conducted on the regression results for District 11, as presented in Table 4, reveals varying associations between different subtypes of violent crimes and college enrollment percentages. Among the subtypes of violent crime in question, Total Crime exhibits a negative correlation with college enrollment, albeit nonsignificant ($r = -0.2306$, $p = 0.114862$). However, when examining specific subtypes of violent crimes, notable patterns emerge. Robbery and homicide demonstrate a statistically significant negative correlation with college enrollment at the 5 percent level (p-values of 0.001766 and 0.024846, respectively), indicating that higher rates of robbery and homicide within District 11 are associated with lower college enrollment percentages among

students (in reference to Figures 4 and 5). In contrast, Battery, Assault, and Criminal Sexual Assault show weaker correlations with college enrollment, with nonsignificant p-values.

District 6

District 6 was also established to be a high-crime district as it ranked among the highest, if not the highest recorded incidence of crime across all subtypes of violent crime. This district contains neighborhoods such as Belmont Heights, Schorsch Village, and Norwood Park.

Figure 6: Cases of Robbery against College Enrollment Rates in District 6 (2015-2019)

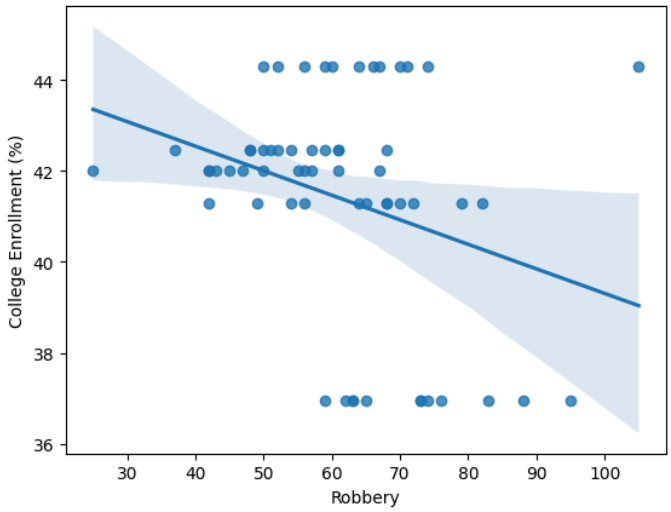


Table 5: R-values and P-values of Total Crime and Subtypes of Violent Crimes Regressions (District 6)

	r-value	p-value
Total Crime	0.0886	0.500831
Battery	0.0531	0.687052
Robbery	-0.3093	0.016191
Assault	-0.2393	0.065599
Criminal Sexual Assault	-0.1135	0.387881
Homicide	-0.1348	0.304603

The regression analysis conducted for the given dataset reveals several noteworthy trends regarding the relationship between different subtypes of violent crimes and college enrollment percentages. Total Crime exhibits a weak positive correlation with college enrollment (p-value = 0.500831), indicating a minimal association between overall crime rates and college enrollment percentages. However, when we delve deeper into specific subtypes of violent crimes, distinct patterns emerge. Robbery displays a statistically significant negative correlation with college enrollment (p-value = 0.016191, r-value = -0.3093), suggesting that higher rates of robbery within the analyzed context are associated with lower college enrollment percentages among students. Homicide also exhibits a negative correlation with college enrollment, albeit non-significant at both the 5 percent and 10 percent level (p-value = 0.304603, r-value = -0.1348).

Conversely, Battery and Criminal Sexual Assault demonstrate weak correlations with college enrollment, with nonsignificant p-values. Assault also demonstrated a positive correlation with college enrollment but with significance on the 10 percent level (p-value = 0.065599), indicating potential influence from other external factors. These findings suggest that while certain forms of violent crimes, particularly robbery, may have a notable impact on college enrollment, others such as battery, criminal sexual assault, and homicide show weaker associations.

Districts (Medium)

District 25

District 25 consists of the neighborhoods of Belmont Central, North Austin, and Kelvin Park. It was classified as a medium-crime district, with rates of each category of violent crime close to the citywide median. Unlike districts with higher levels of crime, District 25 displayed an association between violent crime incidence and college enrollment rate, with all of the subtypes of crime we investigated showing substantive correlations with College Enrollment with the exception of Assault. Table 6, below, reports the results of our linear regressions of total crime and each of the five subtypes of violent crime on college enrollment.

Table 6: R-values and P-values of Total Crime and Subtypes of Violent Crimes Regressions (District 25)

	r-value	p-value
Total Crime	-0.2348	0.070956
Battery	-0.2303	0.076656
Robbery	-0.3100	0.015915
Assault	0.0098	0.940566
Criminal Sexual Assault	0.5686	0.000002
Homicide	-0.2395	0.065296

Figure 7: Cases of Robbery against College Enrollment in District 25

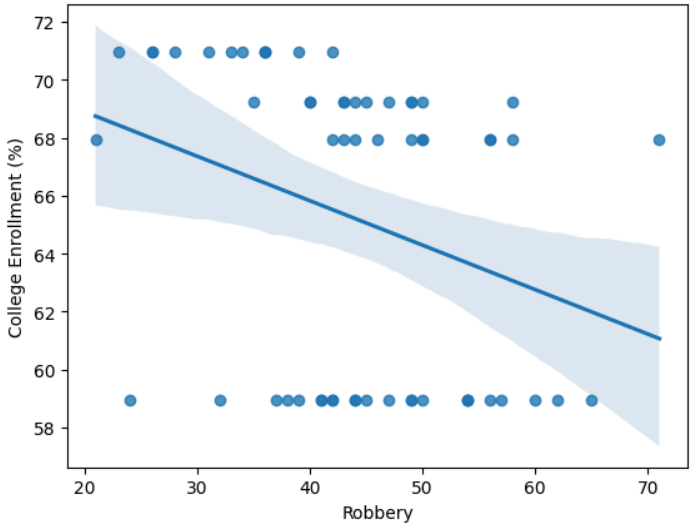
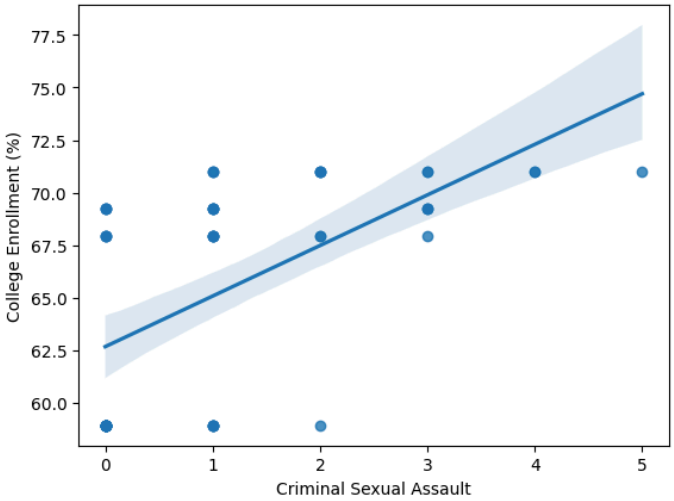


Figure 8: Cases of Criminal Sexual Assault against College Enrollment in District 25



We have two categories that display a significant negative correlation at the 5% level, Criminal Sexual Assault and Robbery. This is especially interesting as it's the first (and only time) we see Criminal Sexual Assault positively associated with a lower college enrollment rate, though this might be because our sample size for Criminal Sexual Assault is low, having less than 20 cases per month. The correlation with robbery is a significant negative correlation ($p = 0.016$) that we have seen in other districts. Meanwhile, three other categories display a significant negative correlation at the 10% level, with Homicide ($p = 0.06$) with the strongest correlation, followed by Total Crime ($p = 0.07$) and Battery ($p = 0.076$). In the context of the broader dataset, these correlations are relatively strong and it's interesting to look at what is unique to District 25 that gives us this data.

District 9

District 9 includes the neighborhoods of Armour Square, Fuller Park, McKinley Park, Bridgeport, and New City. Compared to the other districts, it has a medium level of crime - the total number of crimes recorded from 2015-2019 was 19,557 (very close to the median value of 19,247) while the average college enrollment rate from 2015-2019 was 50.29 percent (compared to the median of 60.87 percent). Notably, college enrollment rates increased from 41.9 percent in 2015 to 51.02 percent in 2019, while total crime rates remained relatively constant.

Similarly to District 25, total crime incidence displayed no statistically significant association with college enrollment. Once again, the only statistically significant regression on college enrollment at the 10 percent significance level was that of homicide: strikingly, the correlation coefficient of homicide on enrollment was identical to the corresponding result in District 25, with a unit increase in homicide incidence resulting in a 0.23 percent decrease in annual college enrollment rate. Table 7 reports the regression results of crime on college enrollment for District 9.

Table 7: R-values and P-values of Total Crime and Subtypes of Violent Crimes Regressions (District 9)

	r-value	p-value
Total Crime	-0.0315	0.811223
Battery	-0.0636	0.629440
Robbery	-0.0410	0.755769
Assault	-0.2023	0.121156
Criminal Sexual Assault	-0.1163	0.376061
Homicide	-0.2266	0.081679

Districts (Low)

District 18

District 18 includes primarily the Near North Side neighborhood of Chicago, consisting of River North, Old Town Village, and Sheffield neighborhoods. Compared to other districts, it has a relatively low crime rate - the total crime rate from 2015-2019 was 13,379 (compared to the lowest crime rate of 6,237 and the median 19,247) while it had one of the highest average college enrollment rates from 2015-2019 at 77.54 percent (compared to the median of 60.87 percent). Notably, the college enrollment rate fell from 87.7 percent in 2015 to 73.37 percent in 2019, while the crime rate generally increased.

After conducting regression analyses, the following table was generated:

Table 8: R-values and P-values of Total Crime and Subtypes of Violent Crimes Regressions (District 18)

	r-value	p-value
Total Crime	-.2226	0.087349
Battery	-0.1907	0.144413
Robbery	-0.0951	0.0469757
Assault	-0.0844	0.521553
Criminal Sexual Assault	-0.0343	0.794912
Homicide	-0.3424	0.007415

When examining Table 8, only two of the regressions in question were statistically significant: total violent crime at the 10 percent level and homicide at the 5 percent level. This can be further examined in the following figures:

Figure 9: Total Crime Against College Enrollment in District 18

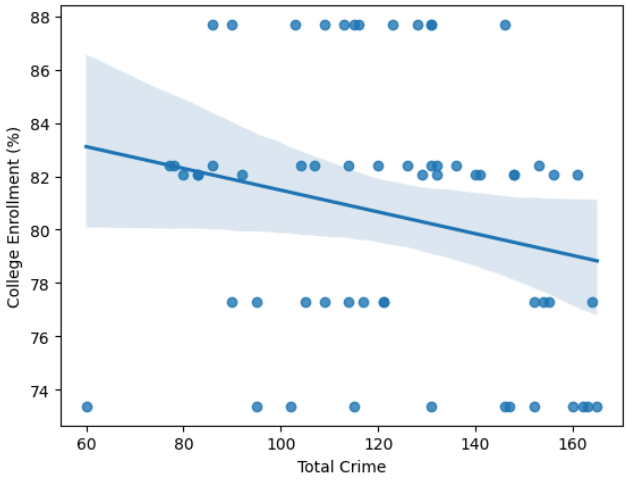
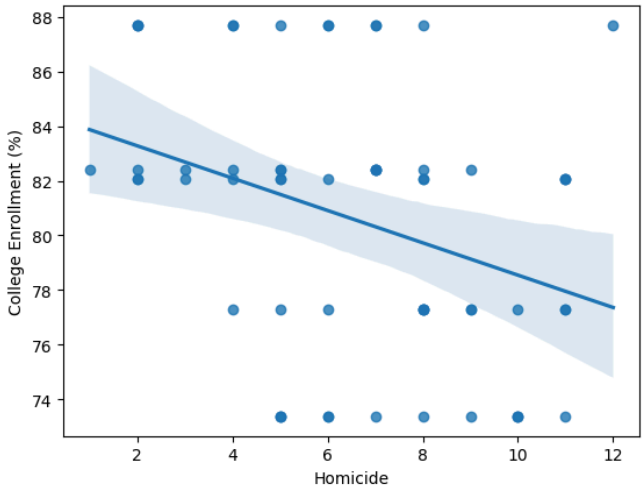


Figure 10: Cases of Homicide against College Enrollment in District 18



Overall, Total Crime demonstrates a negative correlation with college enrollment, suggesting a potential trend toward decreased college enrollment in areas with higher overall crime rates. However, as this result is significant at the 10 percent level and not the 5 percent level, the main standard of confidence that we are abiding by, there is perhaps a need for further exploration. On the other hand, Robbery exhibits a weak negative correlation with college enrollment, indicating that higher rates of robbery are associated with slightly lower college enrollment percentages among students. It is important to note that none of the other subtypes of violent crime had statistically significant results, indicating that there may be other environmental factors that are being neglected and should be taken into account.

Ultimately, District 18 displayed a somewhat negative correlation between crime rates and college enrollment rates, and in particular, homicide was the most strongly correlated with college enrollment rates.

District 16

District 16, located in the northwest part of Chicago, consists of neighborhoods such as Jefferson Park, Dunning, and Edison. For District 16, while the total crime rate stayed within the 2.65-2.80 percent range, the college enrollment and college persistence rate from 2015 to 2019 displayed a consistent positive trend, potentially reflecting the citywide trend of improvements in educational attainment among CPS students over the past decade (Usher et al, 2023).

The only statistically significant regression result for this district was that of robbery ($p = 0.005$). A single-unit increase in robberies in any month correlates to a 0.36 percent decrease in the annual college enrollment rate. Unlike most other districts, District 16 did not exhibit any significant correlation between homicide incidence and college enrollment; the results of those regressions are in Table 9 below.

Table 9: R-values and P-values of Total Crime and Subtypes of Violent Crimes Regressions (District 16)

	r-value	p-value
Total Crime	0.0295	0.822921
Battery	0.1083	0.410078
Robbery	-0.3613	0.004567
Assault	0.0828	0.529195
Criminal Sexual Assault	-0.0542	0.680590
Homicide	0.0401	0.760828

Limitations

One of the biggest limitations in the data was due to how college enrollment rates were mapped to CPD districts. Because college enrollment rates are given by school, each school needs to be mapped to a police district. For each school, a "community area" within Chicago is given - these are neighborhoods that do not line up with police districts. A school is mapped to a police district if the community area that the school is located in falls completely within that police district - if it overlaps with two or more police districts, then it cannot be determined which district that school belongs to.

Thus, there were many Chicago schools that did not contribute to the enrollment rates discussed in this paper because it was uncertain which police district they belonged to. Moreover, if a community area overlaps with two or more police districts, then all the schools in that community area are not counted. This could have skewed the data if the community areas that were left out were particularly high or low in crime rates or college enrollment dates.

Moreover, even if a school is located within one police district, it is possible that there are students attending that school who do not live in the same police district. This may also have affected the results. According to CPS, around 44% of students attend a school other than their zoned school, and around 18% of students attend a school outside of their home region. This means that students could live in areas of higher or lower crime than where they attend school, which could impact their college enrollment.

The CPS data used, specifically the college enrollment, was in percentages, while the crime rate had a nominal value. Because the true number of students enrolling in college each year is unknown, it cannot be determined whether the percentage changes within college enrollment is significant as there is potential for the total number of students to change with the total number of students enrolling in college remaining fairly similar. This can affect the accuracy of the predictions from the linear regression, leading to the data potentially highlighting a different relationship between crime and education.

Additionally, it is important to consider that these are simple linear regressions, conducted without any covariates. There are clearly other factors at the district level—such as income or degree of public investment—that influence both these variables, which means that the true magnitude of these correlations might not be captured by this analysis. Additionally, the true relationship between crime incidence and college enrollment might not be best described by a linear regression, which means that a more sophisticated statistical analysis might be necessary to isolate the actual quantity of interest in this research question. It's also important to note that the units of time vary across both of these variables in the data we were able to collect.

All of these imply ultimately that these regression results cannot be interpreted as the true causal effect of violent crime incidence on college enrollment: while in reality the causal relationship might fall along similar lines to these results, it is not true that the relationship we identified represents this causal effect. Additionally, the estimates that we produced are most likely to be overestimates as there are a variety of factors, such as socioeconomic status and parent's education backgrounds, that may also explain the story behind decreased college enrollments among different

districts. It is also important to note that there are a multitude of considerations that influence the presence of violent crime that we may not have fully accounted for in this paper, thus also overestimating the relationship violent crime alone has with college enrollment.

In the future, it would be beneficial to standardize the units between the two variables, college enrollment and crime. This would help better understand how a one-unit percentage increase in violent crime would ultimately affect percentage enrollment in college, while also aiding in better showcasing elasticity. By not standardizing the units, there were some extrapolations that took place which may dilute the significance of our results. With more standard units, among other improved methods, we can better account for limitations that disrupt the significance of our findings and our understanding between the relationship of violent crime and college enrollment.

Key Implications

For this project, we worked to understand the potential effects of different types of violent crime on college enrollment. Based upon our findings, there are four main themes of implications that arose: what does the key finding from the data, college enrollment mean, college enrollment does not equal college persistence, and the interconnectedness of crime and education.

Key Findings from the Data

In general, robbery and homicide appear to be the subtypes of crime that most reliably exhibit some statistically significant correlation with college enrollment across all districts. Homicide showed a negative correlation with college enrollment rates that was significant at the 5 percent level in every district except District 6, while robbery was significantly correlated with college enrollment in Districts 11, 6, and 16. Each of these associations were generally negative and resulted in a drop of between 0.23 percent and 0.44 percent in annual college enrollment rate, with the medium-crime districts displaying on average lower magnitudes of effects across each subtype of crime. The three other subtypes of crime—assault, battery, and criminal sexual assault—as well as total violent crime incidence, were not significantly correlated with college enrollment rates in the districts we examined.

Understanding College Enrollment

In this research project, we initially treated college enrollment as more of a quantitative metric, in which the rate of the number of students enrolling in college is the most that our data examined. However, as complemented by the literature review, college enrollment is more than just that. It is not just a metric of pursuing higher education but is also the beginning of one's personal and academic development. It is a pivotal moment in which an individual's aspirations intersect with the resources that they were given, greatly influencing the trajectory of their futures. However, choosing to enroll in college is based upon a multitude of factors ranging from individual circumstance and their social environment.

For many students, college enrollment may signify meeting the basic requirements necessary for further education, while for others, it serves as a testament to their academic excellence and ambition. Yet, regardless of individual motivations, the decision to enroll in college is often fraught with challenges and barriers that extend beyond academic achievement. As explored here, violent crime, which is not only referring to its actual presence of a signal of other factors that may hinder the opportunities a student has such as coming from a lower-income background, can pose significant obstacles along the path to higher education, influencing the decisions of prospective students and shaping their educational journeys. Students navigating environments plagued by high rates of violent crime may face heightened levels of stress, trauma, and insecurity, which can significantly impact their academic aspirations and ability to pursue higher education. The pervasive threat of violence can create an atmosphere of fear and uncertainty, leading students to prioritize safety over educational pursuits and contributing to decreased college enrollment rates.

Understanding the complex interplay between violent crime and college enrollment is essential for developing targeted interventions aimed at mitigating the adverse effects of crime on educational outcomes. By addressing the underlying socio-environmental factors that hinder college enrollment, such as community violence and social isolation, policymakers and educators can work towards fostering a conducive environment for academic success to empower students to realize their full potential.

College Enrollment does not Equal College Persistence

College enrollment marks the initial step towards higher education, but the journey does not end there; rather, it transforms into actually staying at the institution through college persistence. However, in communities plagued by violent crime, the road to persistence is often fraught with obstacles. The lack of support systems can leave students feeling alone and unsupported, struggling to keep their academic dreams afloat.

As highlighted through our intersection of the Strain and Social Isolation theory, students from districts where crime is high may grapple with a lack of support systems, exacerbating feelings of isolation and uncertainty. Academic engagement becomes a constant battle against the circumstances of their environment as students strive to maintain their focus and motivation amidst the chaos of their surroundings. The absence of adequate support structures leaves many students feeling adrift, struggling to navigate the complexities of higher education without a safety net to catch them when they falter.

Consider, for instance, the efforts of institutions like the University of Chicago to level the playing field for students hailing from Chicago Public Schools. While initiatives such as fee waivers and scholarships offer a glimmer of hope, they represent just a fraction of the support needed to truly empower students to overcome the multifaceted barriers posed by crime and violence. Addressing the root causes of these challenges requires a comprehensive approach that encompasses not only financial aid but also mentorship programs, mental health resources, and community partnerships aimed at fostering resilience and empowerment.

By recognizing that college enrollment is merely the beginning of the journey and acknowledging the unique challenges faced by students in communities affected by violent crime, institutions can take proactive steps to ensure that every student has the support and resources they need to persist and thrive in higher education. Only by addressing these systemic barriers can we create a more equitable and inclusive educational landscape where all students have the opportunity to succeed, regardless of their circumstances.

The Cyclicality of Crime and Education

Understanding the cyclical relationship between violent crime and college enrollment requires a nuanced examination of the factors shaping individuals' decisions and broader societal dynamics. As prospective students contemplate their educational journey, they must grapple with the looming specter of violence, which can significantly impact their choices regarding enrollment and persistence in higher education. After all, the threat of violence can severely hinder the pursuit of education, influencing decisions to enroll or stay enrolled in college.

In communities grappling with soaring crime rates, educational opportunities often take a backseat as resources are diverted toward addressing immediate safety concerns. This diversion of resources not only limits access to quality education but also perpetuates a cycle of disadvantage. As educational attainment becomes increasingly elusive, communities may struggle to uplift themselves and achieve further development, creating a feedback loop where crime rates remain high due to a lack of educational opportunities. Moreover, the pervasive presence of violence not only disrupts the learning environment but also erodes the sense of security and stability necessary for academic success. Students navigating these turbulent waters may encounter insurmountable barriers that hinder their ability to pursue higher education, perpetuating a cycle of despair and marginalization.

Moving forward, not only understand how crime may affect college enrollment but also look at the inverse relationship of how college enrollment affects the presence of violent crime or just crime in general. By looking at the issue from both ways, we can further distill the best interventions that can tackle both sides rather than temporarily resolving the problem at hand. This would ultimately entail examining what sort of continual support systems can be put in place that are long-lasting and self-sustaining, adapting to the fluctuations between crime and education.

An ideal intervention would not only augment resources in high-crime regions but also focus on influencing behaviors and attitudes toward education and violence. By fostering a culture of resilience and empowerment, communities can break free from the cycle of disadvantage and pave the way for a brighter future where every individual has the opportunity to thrive and succeed.

Conclusion

In this study, we aimed to identify the effect of violent crime incidence on college enrollment at the district level in Chicago. The preliminary results we identify following our analysis suggest that the incidences of homicide and robbery are negatively correlated with college enrollment rates across most districts regardless of their stratum with respect to total crime incidence. This fits well with other studies of the effect of crime on educational attainment, as well as with our own theoretical framework and hypothesis. However, it must be acknowledged that our methodology is relatively simplistic given our own constraints with data collection and analysis, and our results therefore cannot be considered causal. We hope that this research serves as a first step to further investigation of exposure to crime as a determinant of the individual-level decision to enroll in college, which has gone relatively understudied despite the significant attention and effort devoted to research in this field.

At a high level, our research delves into the intricate relationship between violent crime rates in Chicago and college enrollment among public school students. Through meticulous analysis of crime data and enrollment statistics, we have uncovered significant correlations and trends that underscore the profound impact of crime on educational opportunities. Our findings highlight the pervasive influence of violent crime on college enrollment decisions, revealing how the threat of violence can deter students from pursuing higher education. Moreover, we have highlighted the cyclical nature of crime and education, wherein high crime rates not only impede access to quality education but also perpetuate a cycle of disadvantage and despair. Importantly, our research emphasizes the need for comprehensive interventions that address the root causes of both crime and educational disparities. By fostering supportive environments and empowering communities, we can break free from the vicious cycle of violence and create pathways to success for all students. In essence, our study sheds light on the profound implications of violent crime on college enrollment in Chicago's urban landscape, emphasizing the urgency of implementing holistic strategies to ensure equitable access to higher education for all.

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