'Closer to Home, Farther from Recidivism?': The effect of New York City's 'Close to Home' reform on juveniles

1 Introduction

The state of New York is historically significant when we look at the evolution of youth justice reforms. Not only was it the site of the nation's first youth prison, but also the first state in 1978 to pass one of the harshest laws, the juvenile offender law, that allowed youth that were 13 years or older to be tried as adults if charged with certain violent felonies (Schwartz 1980). Until the passage of 'Close to Home' (C2H) reform in April 2012, if a juvenile in New York was convicted of their crimes, they were sent away to large facilities that were operated by the New York State Office of Children and Family Services (OCFS) or by private providers contracted by OCFS, most of which were located in upstate New York, far away from the city (Weissman 2019). The reform stated that juvenile delinquents of New York City (NYC) who were required to go through out-of-home placement would no more be sent to offsite facilities but instead would be assigned to local care and custody of the city.[1]

My aim in this paper is to explore whether juveniles serving their sentences in facilities that are less punitive and more rehabilitative with the added benefit of being closer to their homes are more likely or less likely to recidivate as compared to their counterparts sent to far off locations. The net expected impact of this policy on recidivism is unclear. On one hand, juveniles who stay close to home may have more visitations from family and stay connected

[1] Juvenile delinquent is defined as a child over 7, but under 16 years of age (this was raised to 18 years effective 10/1/2019), who commits an act that would be a crime if it had been committed by an adult

to their community that would serve to reduce their chances of future recidivism.[2] On the other hand, this directly leads to a decrease in both deterrence and incapacitation while also keeping them in touch with their peer network or partners in crime, which could lead to an increase in their recidivism rates (Bayer, Hjalmarsson & Pozen 2009).

From pre-post analysis of NYC juveniles, I find no statistically significant changes in the recidivism rates for male (black and non-black) juveniles who previously committed a misdemeanor, in the post-reform period, while the recidivism rates increased for the female, non-black juveniles who previously committed a misdemeanor by 2 percentage points (8% over baseline means provided in Appendix) and decreased the probability of a male, non-black juvenile escalating criminal behavior by 6.2 percentage points (25%) in the post-reform period.[3] While the reform does not seem to impact the detention or sentencing trends of male juveniles in the city, it impacts the female non black juveniles with increased detention and placement rates, and reduced dismissal rates, although most of it seems to be driven by a drastic decline in non-status arrests for female non-Black juveniles. Using difference-in-differences estimator, I find that the reform is associated with a 4.2 percentage points increase in the likelihood of recidivating for male NYC juveniles committing a misdemeanor, but 2.3 and 3 percentage points decline for female, non-Black and male, Black juveniles in the city. It is associated with the maximum impact on male, Black and female, non-Black city juveniles with a significant reduction in recidivism rates.

The literature on adult recidivism affected by distance finds doubling an inmate's distance from his house reduces his recidivism rate by 3.3 percentage points (Weber 2019). The paper, however, attributes this decrease in recidivism to criminal ties getting cut when the inmate moves from his town to the prison. To the best of my knowledge, there is no such related literature that takes a look at juvenile recidivism and how it might be affected by family visitation or proximity to house. My contribution is to provide a quantitative report on the impact of the C2H reform on juvenile recidivism. Section 2 provides background about the juvenile justice system, section 3 talks about the reform itself, and section 4 covers

[2]Recidivism is defined as getting re-arrested within the next two years

[3]Status offenses are acts that are considered as offenses due to the age of the juveniles, e.g., underage drinking, truancy, etc.

the literature review of the topic. Section 5 describes the data used and section 6 lays the empirical strategies employed to get the results. Section 7 contains the results with section 8 concluding the paper with discussion of current paper limitations and scope for future research.

2 Background

The juvenile justice system is an independent and parallel system of criminal justice that exists to address the charges or convictions of criminal offenses committed by minors. With a few exceptions, in most states in the United States, minors are people under the age of eighteen. The main purpose of a separate justice system for minors is not to remove them from the society through incarceration but to rehabilitate them. Juvenile criminal proceedings are a lot more informal than those of adults. This contrast can be noticed in the way juvenile offenders are addressed as respondents instead of defendants in many jurisdictions. Based on the type of crime committed, the juveniles' punishment could vary anywhere between paying restitution for damages, completing certain educational/vocational programs, abiding by curfews, obeying parents, maintaining school attendance, probation, etc. Even in case of incarceration, this would be at a juvenile detention center which is tailored towards the juvenile's age group. Once the individual becomes an adult, their juvenile criminal records are automatically sealed. Juveniles can be charged for two kinds of criminal offenses. Non-status offenses that are crimes when committed by adults, such as property crimes, motor crimes, and violent crimes. And status offenses, that are considered as crimes committed by the juvenile precisely because of their age, such as truancy, running away from home, underage drinking/driving, breaking curfew, disobeying parents/guardians, etc. Most status offenses are handled by social services rather than juvenile courts. In case of serious crimes, such as murder or aggravated assault, minors can be tried as adults in the adult criminal court.

The history of the juvenile justice system in the United States is a little over a century old, with the first court appearing in 1899 in Illinois, prior to which kids and youth alike

were tried and punished as adults. The philosophy 'parens patriae' was first articulated in 1944's *Prince Vs. Massachusetts* that stated a juvenile court could 'act as a parent' and intervene when it felt it was in the best interests of the juvenile. It was advances in the understanding of children's mental development and a push for a more compassionate approach that brought about this change. In 1995, a popular criminologist and political scientist, John Dilulio Jr. published an article in the Washington Examiner, warning us of 'The coming of the Superpredators'. He predicted an incoming wave of remorseless, impulsive teenagers that would indulge in criminal offenses without any intelligible motive. This led to American lawmakers taking tough-on-crime legislative actions to address this danger. Multiple people debunked this theory as a myth (Radice 2018). On the other end of the spectrum were psychologists and law professors like Laurence Steinberg and Elizabeth Scott respectively, who argue that juveniles should not be held to the same standards as that of adults in terms of criminal responsibility because their decision making capabilities are diminished as compared to adults and their character is still undergoing change.

According to the juvenile court statistics report by the National Center for Juvenile Justice (NCJJ), the number of cases handled by the juvenile courts has decreased by 48% between 2009 and 2018. Over this period, cases have declined in every category of offense except criminal homicide and nonviolent sex offenses. According to the Children's Defense Fund, despite such positive trends in child arrests, 1,995 children are arrested in the U.S. each day. According to the Office of Juvenile Justice and Delinquency Prevention (OJJDP) statistics, more than 728,000 children were arrested in 2018, of which more than 60% were white and about 70% were male. About 20% of the youth that are held in juvenile facilities are awaiting trial and they have not yet been found guilty or delinquent. The juvenile arrest rates in the United States have come down from 6,396.6 per 100,000 persons aged 10-17 in 1980 to 2,553 per 100,000 persons aged 10-17 in 2016, peaking at 8,476.2 per 100,000 persons aged 10-17 in 1996. Additionally, the percentage of juveniles arrested for violent crimes over this period reduced from 34.9% in 1980 to 8.6% in 2017, peaking at 52% in 1993.

Over this period of the last four decades, multiple states across the country implemented various reforms to better the juvenile justice systems by creating developmentally appropriate

models without posing any risks to public safety. The overarching goal of the juvenile justice systems is to minimize both the incarceration as well as the recidivism rates of youth while maintaining/improving public safety. One such reform is the C2H reform whose effect on the recidivism rates of at-risk youth, i.e., youth that have been in prior contact with the justice system is what I intend to measure in this paper.

3 'Close to Home' Reform

From the mid-1970s to the mid-1980s, the number of incarcerated youth rose by 45% at the national level (Smith 1999, Annie E. Casey Foundation 2013). During this period, there were allegations of civil rights violations perpetrated by the State Division for Youth (DFY) in the state of New York. This led to a resistance towards the harsh and punitive approach undertaken towards the juveniles in custody. There were also new studies by psychologists and law professors in the later decade that argued that juveniles should not be held to the same standards as that of adults in terms of criminal responsibility because their decision making capabilities are diminished as compared to adults and their character is still undergoing change (Steinberg 2009). There were various reports submitted by advocates and task forces that highlighted the inhumane condition of the New York State OCFS juvenile facilities. In an era where the nation was transitioning from a 'tough-on-crime' stance to a rehabilitative one, these reports along with the news of the death of a 15-year old Bronx boy while in custody served as the final push for the C2H reform (Weissman 2019).

This initiative was proposed in the year 2010, and was passed as legislation in March, 2012 to be effective from September, 2012. It transferred the custody and care of all NYC youth that got adjudicated as juvenile delinquents from the state to the city.[4] City juveniles were no longer being sent out to upstate facilities for non-secure or semi-secure placements. It is important to note here however, that juvenile offenders are still sent to the secure facilities handled by the OCFS.[5] Post the implementation of this reform, not only did the

[4]Juvenile delinquents are children aged 7-15 in the State of New York that committed an act which would be considered a crime if committed by an adult, also called a non-status offense

[5]Juvenile offenders are youth aged 13-15 charged with committing a serious or violent felony offense

number of juvenile offenders being transferred from the city's family court to the youth prisons drastically go down, but also, the juvenile delinquents being placed into the local facilities were now subjected to more home-like settings aimed at rehabilitation over punitive measures (Weissman 2019).

A pivotal element of the Close to Home reform involves establishing smaller, community-oriented residential facilities. These facilities aim to deliver a more nurturing and rehabilitative setting compared to large, traditional correctional establishments. By 2016, the reform had effectively relocated over 600 youth from state-operated institutions to these community centers. The focus of these centers is on meeting the unique needs of each youth, providing services such as educational programs, mental health support, substance abuse treatment, and family involvement initiatives. This comprehensive strategy is designed to address the underlying causes of delinquency and aid young individuals in successfully reintegrating into society. In addition to residential centers, the Close to Home reform includes non-residential alternatives, such as intensive community supervision and aftercare programs. These programs are crucial in ensuring that youth receive continuous support as they transition back into their communities. From 2012 to 2016, the number of youth placed in out-of-state facilities dropped by over 50%.

The reform also focuses on enhancing supervision and accountability of juvenile facilities. In 2013, the Administration for Children's Services (ACS) was assigned the task of overseeing these community-based programs. This transition in oversight was meant to certify that the facilities uphold high care standards and that youth obtain the necessary services. ACS enforced stringent monitoring and evaluation processes, which included frequent site visits and gathering performance data. These actions aim to guarantee transparency and accountability, vital for sustaining public confidence and ensuring the reform's success. Overall, the Close to Home reform marks a notable transformation in the way New York City handles juvenile justice. By focusing on community-based interventions and support, the reform attempts to establish a more efficient and compassionate system that better serves young individuals and their communities.

When the California juvenile justice realignment law was passed in 1996, the cost of

juvenile corrections was transferred from the state to the county level, resulting in a drastic drop in the number of juveniles being sent to state facilities (Ouss 2015). For the state of New York however, the city already was paying the state for the juveniles it was sending to the state facilities. 'Close to Home' reform merely changed the receptors of these funds from the state to the city. So I do not have to worry about any drastic changes in terms of arrest rates or placement rates being affected due to such cost transfers.

4 Literature Review

This paper contributes to the literature on economics of juvenile crime, specifically, it attempts to answer whether keeping youth closer to homes can keep them out of the prison system later in the future or unintentionally exacerbates their future recidivism by reducing their deterrence levels. Weber (2019) looks at adult recidivism affected by proximity of prison from home and finds that doubling an inmate's distance from his house reduces his recidivism rate by 3.3 percentage points. The paper attributes this decrease in recidivism to criminal ties getting cut when the inmate moves from his town to the prison. Prior work on juveniles and proximity indicates that the distance from a treatment center is found to increase the likelihood of both treatment non-completion and recidivism of a juvenile sentenced to community based treatments instead of residential placements (Lockwood 2010). This paper does not look at placements at all. While some studies indicate that the very quality and characteristics of a neighborhood such as presence of public parks, schools, libraries and community centers, voluntary establishments, and detention/police facilities influence recidivism risk, the significance and direction of these effects varied by juvenile population (Thompson-Dyck 2018), others indicate relocation increases recidivism, irrespective of the direction of the move with regard to socioeconomic context (Wolff 2017).

When it comes to incapacitation effects, there are mixed results. Eren & Mocan (2017) finds juvenile incarceration has no impact on future violent crime, but it lowers the propensity to commit property crime. It also increases the propensity of being convicted for a drug offense in adulthood, which is again an effect largely driven by the time spent in prison.

Aizer & Doyle (2013) find large increases in the likelihood of adult incarceration if the youth was incarcerated as a juvenile. Coleman et al. (2009) finds that over two thirds of youth placed in New York State's juvenile placement system spent some amount of time in the adult prison system by the time they turned 28. My work is an additional contribution to the work done by this paper. Jacob & Lefgren (2003) look at the effect of incapacitation on crime rates and find that the level of property crime reduces by 14% on school days and the level of violent crime increases by 28% on days when teachers are in service, leaving students to themselves.

When it comes to the behaviour of youth reacting to changes in deterrence by introduction of sanctions or reforms, the evidence is quite mixed. Arora (2019) finds that the reported offenses/arrest rates of juveniles aged 13-17 increased by 8% of the mean post the implementation of 'Raise the age' reform across various states in the United States. Most of the increase in these crime rates is driven by gang related crimes, reaffirming the criminal accumulation capital theory. While some argue for harsher sanctions to deter crime, others act as proponents for diversion programs such as Becoming a Man program, a community based support and treatment group in the cities of Boston and Chicago. Heller et al (2015) finds a reduction of 28-35% in total arrests, and a reduction of 45-50% in violent crime arrests during the intervention period. A strong paper that argues against juvenile incarceration is Bayer, Hjalmarsson & Pozen (2009) that shows strong evidence of peer effects for burglary, petty larceny, felony and misdemeanor, drug offenses, aggravated assault, and felony sex offenses. These effects affect individuals who already have some experience in a particular crime category. Imai, Katayama & Krishna (2006) find that previous arrests raise criminal activity for non-criminal type, i,e,. someone who does not keep committing criminal offenses. Mocan & Rees (1999) find that juveniles do respond to incentives and sanctions as predicted by economic theory.

The literature has mixed evidence when it comes to the saliency of youth with respect to changes in legislation that affects the punitiveness of their offenses. Some find behavioral changes in anticipation of reforms among those impacted by it, such as Raise the Age reform (Arora 2019) or Tort reform (Malani & Reif 2010). While some papers find that there is a

very limited deterrence effect of receiving harsher sentences when juveniles turn 18 and are tried as adults (Lee & McCrary 2009), others find significant effects of deterrence for the same (Levitt 1998).[6] Since I have data for a couple of years preceding and succeeding the reform implementation, I check for the salience of youth in the period post the implementation of the reform. As stated before, since this reform did not result in an influx/outflux, but rather a diversion of funds from the state to the city, I am not concerned about the arrest patterns being affected by cost transfers.

5 Data

I use juvenile court records from the National Center for Juvenile Justice, collected by the New York State Office of Court Administration. These records, spanning from 2005 to 2019, include demographic details (sex, race, age at filing) and criminal history (petition time, prior referrals, offense count, filing offenses, disposition outcome). The dataset comprises 181,083 records of cases reaching the petition stage, with 51,404 status offense records and 129,679 non-status offense records. Status offenses, like underage drinking, running away, and school absenteeism, are non-criminal acts specific to minors. Non-status offenses include acts like burglary, theft, and criminal mischief, which are criminal regardless of the offender's age.

Table 10.1 provides the demographic statistics of the non-status offenses/arrests. When I compare the demographics of NYC which is my treatment group with the rest of the state which is my comparison group, I see that almost 47% of the comparison group is White, whereas for the treatment group it is slightly over 21%. The proportion of Black youth arrested in NYC is much higher at almost 73% than that of the rest of the state at 48%. Only about 28% of NYC juveniles are from the post-reform period as compared to almost 34% for the rest of the state. The average age at filing for both NYC as well as the rest of the state seems to be consistent with the overall average at 14 years old.

The number of arrests reaching the petition stage has consistently declined over the years, as shown in Figure 10.1. From 2008 to 2016, the annual arrest rate for NYC juveniles

[6]The last two papers assume implicit salience since the youth would be aware they would be tried as adults at the age of 18

decreased by an average of 8% in the pre-reform period and 16.98% post-reform, compared to 7.63% and 8.99% for the rest of the state[7]. The Close to Home (C2H) initiative, implemented starting September 2012, transferred youths in OCFS custody to NYC facilities by Spring 2013. Despite this, there was a 12.57% decline in arrest records from 2012 to 2013. During 2010-2012, arrest rates also fell by 6.97% in 2010, 17.17% in 2011, and 7.56% in 2012, dismissing the theory of anticipation of future reform. This trend suggests that juveniles, unlike rational adults, do not typically consider the long-term consequences of their actions, as posited by Malani and Reif (2015). On average, females account for about 23.86% of the total arrest records in the pre-reform period and 23.16% in the post-reform period as shown in Figure 10.2. A statistic that's of concern is the proportion of Black juveniles arrested as compared to others as seen in Figure 10.3. On average, this proportion seems to be constant between 70-75% for NYC and 45-50% for the rest of the state, heavily exceeding the demographic proportions for the same.

Table 10.2 summarizes the criminal and disposition statistics of our records. In NYC, about 56% of cases are felonies, while in the rest of the state, more than 58% are misdemeanors. Drug-related charges in NYC are nearly four times higher than in the rest of the state, whereas sexual misconduct charges are almost twice as prevalent outside NYC. Other charges are similar between the two groups. Approximately 8% of juveniles were detained before their hearing, and around 51% of cases are dismissed at the hearing. One-third of arrested juveniles are put on probation, and about 13% are sent for out-of-home placement. These patterns are consistent across NYC and the rest of the state. The decline in cases is evident for both misdemeanors and felonies reaching the petition stage, as shown in Figure 10.4. Post-reform, misdemeanors declined by 69.26% in NYC and 37.62% in the rest of the state. For felonies, the decrease in arrest rates was 58.85% in NYC and 33.12% in the rest of the state.

Table 10.3 presents the recidivism rates of the juveniles. Here, I define recidivism as re-offending at any point in future, still as a minor. This means that if a juvenile committed an offense for the second time, and still have not reached the age of criminal majority, it would

[7]Refer to Figures 11.A.1 and 11.A.2 in Appendix11

count as recidivating. On average, about 25% of juveniles recidivate ever (23.31% among NYC juveniles and 25.72% among the rest of the state juveniles). It also shows that about 80% of the juveniles that recidivate do so in the first year, and almost 95% of recidivating juveniles do it within the first two years. These percentages are consistent across offense types. Following the economics of crime literature, for the purpose of analysis henceforth, I have limited recidivism to having re-offended within the first year. Figure 10.5 shows the average recidivism rates in NYC and the rest of the state over the period 2008-2016. On the top-left hand side are the unconditional average recidivism rates whereas on the top-right hand side, it depicts the conditional pre-trends of NYC recidivism rates compared to the rest of the state. It also acts as a graphical justification for our parallel trends assumption required to do the difference-in-difference analysis.[8]

To streamline my analysis, I focus on recidivism where the second offense is a non-status offense, regardless of the first offense type. This approach is based on the premise that juveniles escalating from status to non-status offenses indicate increasing criminal behavior. Similarly, if both offenses are non-status, it reflects a continuation of criminal activity. Conversely, recidivism involving status offenses, whether escalating or de-escalating, is excluded, as these offenses are neither violent nor harmful to society. I use three subsamples of the population data. The "Overall" data includes the full dataset. The "Main" data excludes records with missing or unknown race information, which accounts for about 40% of the overall dataset, mostly scattered in the pre-reform period evenly across NYC and the rest of the state. The "Main" sample is the primary dataset for analyzing the reform's effect on our main outcome. To account for treatment heterogeneity, I examine variations for female juveniles, Black juveniles, those with prior status offenses, and those with prior felonies. I also create a "Placement" dataset for juveniles placed in out-of-home care to assess the reform's direct impact on this group. Additionally, I create a dataset of juveniles aged 11-14 to measure one-year and two-year recidivism, ensuring all reoffending juveniles are accounted for. My focus is on results from the "Main" dataset, while other samples serve as baselines to validate coefficients or ensure consistency across various samples.

[8]The quantitative comparison between NYC and rest of the state is present in Table 11.A.1 of Appendix 11

6 Empirical Strategy

I aim to look at mainly three things in this paper. Firstly, I measure the effect of the reform on recidivism rates. Changes in recidivism rates would imply changes in the behavior of juveniles affected by the reform. Secondly, I measure the effect of the reform on sentencing trends. Changes in sentencing trends would imply the existence of salience and discretionary decision-making among intake officers and judges. Last but not the least, I check for salience among youth by looking at the arrest trends around the time the legislation was introduced, passed and implemented. If there really is salience among youth and if they prefer to be closer to home, then the expectation is that there is an increase in the number of non-status offenses being committed in the post-reform period. While arrest trends in themselves are a combination of juveniles' behavior as well as arresting officers' lenience/bias, if there truly is salience among juvenniles, i.e., if the juveniles are hanging their behavior prior to the reform in anticipation of it, I would expect to see a spike in the felony arrest rates in the post-reform implementation period as opposed to the consistently declining arrest rates observed before. This is because, unlike misdemeanors, where the arresting officers can and do exercise discretion in choosing whether they want to proceed with an arrest or leave the juvenile with a warning, felony incidents being of a more serious nature require the officer to make an arrest.

I go about this in two ways. First method is to use a linear regression model with fixed effects to employ a pre-post reform comparison analysis among the NYC juveniles. While my main outcome of interest is recidivism, I also look at the detention, dismissal, placement and arrest rates of the youth before and after the reform using the following equation:

$$Y_{i,t} = \alpha_1 + X_{i,t}\alpha_2 + \alpha_3 \text{PostReform}_t + \alpha_4(\text{PostReform}_t \times X_{i,t}) + \gamma_b + \delta_t + \epsilon_{i,t} \tag{6.1}$$

where Y is the indicator outcome variable such as recidivism, detentions, dismissals, placements and arrests, X are demographic variables such as age, sex, race, offense type, etc,. PostReform is an indicator variable for whether it is post the reform implementation date or not, α_4 is the coefficient of interest measuring treatment heterogeneity based on demograph-

ics, γ_b are borough fixed effects and δ_t are year fixed effects with i, b and t being individual, bounty and year levels.

Next, I use the difference-in-differences estimator where the treatment group is the City of New York and the comparison group is the rest of the state.[9] I measure the same things here as before.

$$Y_{i,t} = \alpha_1 + X_{i,t}\alpha_2 + \alpha_3 \text{NYC}_i + \alpha_4 \text{PostReform}_t + \alpha_5(\text{NYC}_i \times \text{PostReform}_t) + \alpha_6(\text{NYC}_i \times \text{PostReform} \times X_{i,t}) + \delta_t + \epsilon \tag{6.2}$$

where Y is the recidivism rates, X are demographic variables, NYC is an indicator variable for whether they're from the City of New York or not (treatment group), PostReform is an indicator variable for whether it is post the reform implementation date or not (treatment period), α_5 is the difference-in-difference coefficient measuring the impact of the reform for baseline group, α_6 is the coefficient of interest measuring treatment heterogeneity based on demographics, and γ_c and δ_t are county and time fixed effects with i, c and t being individual, county and year levels.

An advantage of using a pre-post model is the assurance that the composition of juveniles' demographics, offense types and offense severity are comparable in the pre-reform and post-reform period. The limitation of this method is it fails to isolate the effect of the reform from the overall trend of juvenile justice moving towards a more rehabilitatory stage. This limitation is addressed by using the difference-in-differences model that lets us use a comparison group to look at and isolate the effect of the reform. However, difference-in-difference model comes with its own limitation where it's really hard to justify the comparison group being a good comparison group. I choose the rest of New York state as opposed to a different metropolitan city to remove the risk of other reforms or changes happening in the new comparison city I would not be able to account for.

I do not use NYC status offenses as a comparison group to NYC non-status offenses

[9] Pre-trends justifying this approach are present graphically in the results section and quantitatively in Table 11.A.1 of Appendix 11

to ensure I am not comparing two extremely different groups of juveniles since the status offenses are milder and cause minimal harm/damage to others as compared to non-status offenses. For instance, almost 91% of status offenses in NYC are dismissed, 0.45% detained and about 6.82% placed out of home, which leaves a sample of hardly 13 thousand juveniles to be compared against over 56 thousand for non-status offenses.[10]

7 Results

7.1 Pre-Post reform analysis results for NYC juveniles

Recidivism:

Firstly, I look at the city of New York and measure the average effect of the treatment on the juveniles' recidivism rates post reform implementation. Table 10.4 presents the impact of the reform on recidivism rates after I control for demographic factors such as age, sex and race, case specific characteristics such as whether the previous offense was a status offense or a felony and interact these variables with the post reform indicator variable. I find no statistically significant changes in the recidivism rates of NYC juveniles in the post-reform period. I also do not find any treatment heterogeneity based on demographics.

However, there is a distinction between crime types and it matters whether a juvenile is escalating/continuing/de-escalating their criminal behavior. Hence, I also estimate the impact of the reform based on the previous offense committed while accounting for both borough and year fixed effects, the results of which are presented in Table 10.5. There is no statistically significant change in the recidivism rates for male, non-Black NYC juveniles who previously committed a misdemeanor, in the post-reform period. While the recidivism rates increased for the female juveniles who previously committed a misdemeanor by 2 percentage points (8% over baseline means provided in Table 11.B.1 in Appendix 11) compared to male juveniles in the city, it decreased the probability of a male juvenile who previously committed a status offense recidivating by 6.2 percentage points (25%) in the post-reform

[10]Refer Tables 11.A.2 and 11.A.3 in Appendix 11

period compared to those who previously committed misdemeanors. This shows that there is a sharp reduction in the likelihood of juveniles that commit escalation of criminal behaviour. No such significant changes exist in the recidivism rates of male juveniles who previously committed a felony in the post-reform period.

Pre-trial detention and sentencing trends:

Next, I look at the changes in detention and sentencing trends pre-reform and post-reform in NYC. Detention here is an indicator variable with the value 1 if a juvenile was detained prior to their trial/disposition hearing. There are primarily two types of sentences at dispositions that I look at. First, if a case was dismissed, meaning the juvenile is free to go. Second, if the juvenile got placed as a result of the disposition. Panel A of Table 10.6 presents the likelihood of a juvenile getting detained when arrested. It shows us that while there was a significant decline in detention rates in the post-reform period before controlling for treatment heterogeneity, there is no significant changes in detention rates for male juveniles in the post-reform period, and the reform is associated with increasing the detention rates by 9.6 percentage points for female juveniles compared to the male juveniles in the city.

Once I start looking at sentencing trends, I have to remove the placement dataset from my results. Panel B of Table 10.6 presents the results for dismissals. The results do not change much before and after controlling for treatment heterogeneity. The reform does not seem to impact male juveniles dismissal rates. The likelihood of a female juvenile's case getting dismissed decreased by 3.1 percentage points compared to a male juvenile from the city in the post period. Panel C of Table 10.6 presents placement trends. The likelihood of being put into placement for male juveniles in the post-reform period saw no significant changes either. Similar to detention trends, the probability of a female juvenile being put into placement in the post-reform period increased by about 3.1 percentage points compared to male juveniles in the city. While the reform does not seem to impact the sentencing trends of male juveniles in the city, it impacts the female juveniles in the city with relatively increased detention and placement rates, and reduced dismissal rates compared to the males.

Arrest trends:

The last thing I look at before moving on to the difference-in-difference analysis is the

arrest trends. Panel A of Table 10.7 shows that the probability of getting arrested in the post-reform period went down by 8 percentage points for females compared to the male juveniles in the city,and increased by about 7.5 percentage points compared to non-Black juveniles in the city. One of the limitations to talking about arrest rates and using them as a proxy for crime rates is that people might argue, rightfully so, that arrest rates do not always necessarily reflect crime incidence rates of a place. Especially if the city is going through other reformative phases of justice reforms, it is very likely that the police officers are changing their arresting patterns, and if they think a case (based on an offense which is not too serious) will not be taken further by the prosecutors, they might decide not to make an arrest at all. So to differentiate between the decline in arrests due to other factors such as police or prosecutor attitudes Vs changes in juvenile behavior, I look at felony arrests. This is because, unlike a misdemeanor, felonies are more serious in nature and the officers have no other option but to arrest the juvenile who committed the felony.

Panel B of Table 10.7 shows the arrest rates on average for female juveniles went down by about 3.4 percentage points compared to city male juveniles. For Black juveniles however, the likelihood of getting arrested for a felony offense increases by 4.5 percentage points in the post-reform period compared to the non-Black city juveniles. The two panels in Table 10.7 mimicking each other in results show that any changes in overall arrest rates were also consistent with changes in felony arrest rates, limiting the amount of discretion to be attributed to police behavior towards juveniles. This also shows there has not been any rise in violent crime in the city in the post-reform period since this would be reflected in the felony arrest trends during that period. It is also important here to note in the background that around the same time period that this reform went into effect, Judge Shira Scheindlin of the U.S. District Court for the Southern District of New York granted class-action status to a lawsuit that challenged the New York Police Department's (NYPD) stop-and-frisk practices. This lawsuit, Floyd v. City of New York, ultimately led to a landmark ruling on August 12, 2013, in which Judge Scheindlin declared that the NYPD's stop-and-frisk practices were unconstitutional and ordered reforms. So changes were also anticipated in New York Police Department's (NYPD's) officers' behavior in response to these events.

From the pre-post model results, I conclude that there is a significant reduction in the escalation of criminal behavior by male juveniles, i.e., those recidivating with a non-status offense when the prior offense was just a status offense. While there seems to be no significant changes in the recidivism rates of male juveniles who previously committed misdemeanors, there is a significant increase in the likelihood of female juveniles recidivating compared to their male counterparts. The reform is associated with a decrease in dismissal rates and an increase in detention and placement rates of female juveniles in the post-reform period compared to male juveniles who show no significant changes in the detention and sentencing trends. The consistency of the impact of the reform across both non status as well as felony arrests allude to the fact that there is no discretionary effect that's dominating the misdemeanor arrests. The arrests that do not change significantly also allude to the lack of salience among juveniles as well as the fact that there has been no increase in serious crimes committed by juveniles in the city.

7.2 Difference-in-difference analysis results for NYC juveniles compared to the rest of the state

To differentiate the effect of the reform from the overall trend of the juvenile justice moving towards more rehabilitative practices across the nation, I use the difference-in-differences approach using NYC as the treatment group and the rest of New York state as the comparison group.

Table 10.8 presents the difference-in-differences estimator results for recidivism rates of New York City as compared to the rest of the state in the post-reform period. On average, the recidivism rates of NYC juveniles shows no statistically significant changes in the post-reform period compared to juveniles from the rest of the state. However, the recidivism rates of female city juveniles reduced by 2.8 percentage points in the post-reform period compared to their male counterparts. Similarly, the recidivism rates of Black NYC juveniles reduced further by 2.8 percentage points in the post-reform period compared to the non-Black juveniles.

Table 10.9 looks at the recidivism rates while allowing for treatment heterogeneity based on previous offense type. The results from this table are similar to our previous table in terms of both magnitude as well as significance. On average, the recidivism rates of male NYC juveniles who previously committed a misdemeanor (base demography) increased by 4.2 percentage points. In terms of recidivism, results indicate that the demographic group that is affected most positively by the reform are Black and female city juveniles who previously committed a misdemeanor, who are 2.3 and 3 percentage points less likely to recidivate in the post reform period compared to male or non-Black city juveniles respectively. The reform is associated with a decrease of 6.2 percentage points in recidivism rates of male juveniles who previously committed a status offense, showing a significant reduction in the likelihood of male NYC juveniles committing escalation of criminal behavior in the post-reform period.

From the difference-in-differences estimates, I conclude that the reform had a relatively more positive impact (decline in recidivism) among female and black juveniles in terms of recidivism compared to the male and non-Black city juveniles. Similar to the pre-post model, there is a significant reduction in the escalation of criminal behavior by juveniles, i.e., juveniles recidivating with a non-status offense when the prior offense was just a status offense. Again, similar to the pre-post model, there is a reduction in the likelihood of previous felony offenders recidivating, implying a decline in continuation of serious criminal behavior, although this is not statistically significant. The felony arrests that don't change significantly (similar to pre-post model results) allude to the lack of salience among juveniles as well as the fact that there has been no increase in serious crimes committed by juveniles in the city.

8 Conclusion

This paper looks at the Close to Home (C2H) reform implemented in the city of New York in the year 2012. The reform transferred the care and custody of NYC juveniles to the city of New York instead of the state as was formerly the case. The expected overall impact of this reform on recidivism would be unclear since the proximity and attachment to the community could have both positive as well as negative impact on the juveniles' chances of recidivating.

By staying closer to home (assuming the juvenile has a stable house/family), and connected to the community (assuming it is beneficial for the juvenile), the juvenile would deter from committing future offenses. However, if the juvenile did not have a stable house/family, and/or stays connected to a community that has their peer network of partner/s in crime, this would only inevitably lead to higher recidivism post the implementation of reform. Without even these indirect effects, the very fact that the law now dictates the juveniles get to stay in the city close to home instead of being sent far off might act as a decrease in their deterrence levels.

Using pre-post analysis of NYC juveniles, I find that there is a significant decline in the proportion of male city juveniles indulging in the escalation of criminal behavior (by almost 25%). Using difference-in-difference methodology, and using NYC juveniles as my treatment group with the rest of the state as the comparison group, I find the net impact of the reform leads to an increase in the recidivism rates of the male city misdemeanor juveniles (by 4.2 percentage points) getting treated, with a relative decrease in the recidivism rates of both female (by 2.3 percentage points) and Black juveniles (by 3 percentage points) getting the same treatment with respect to their male and non-Black city counterparts respectively. I also find that there is a significant decline in the likelihood of treated juveniles indulging in escalation of criminal behavior (of 2.3 percentage points).

It is clear from the above results as well as Figures 11.A.4 to 11.A.6 in Appendix 11 that while there is no salience among juveniles when it comes to committing offenses, there is clear salience and conscious choices by the justice system to improve the arrest, detention and sentencing trends in favor of juveniles (Decrease in arrests, detentions and placements and increase in dismissals). For instance, the State of New York has been gradually moving from a punitive approach to a more inclusive, rehabilitatory approach towards juveniles in the last decade. This is reflected in the various stages of a juvenile being processed through a justice system where we see juveniles being directed away from the justice system towards other ways of treatments. Police officers are arresting fewer juveniles by the year accounting for the number of incidents reported in a year. Juveniles may be put on probation or community service instead of being placed out-of-home. Unless the charges are serious enough, most

judges are moving away from sentencing the juveniles to harsh punishments.

An advantage to using both pre-post comparison and difference-in-difference analysis is that we can deduce not just what is happening in the city in the post-reform period but also compare it with what's going on in the rest of the state. We can see that not only has the escalation of criminal behavior gone down in the post-reform period in the city, it has gone down by a lot more compared to its comparison group. While female recidivism rates seemed to increase in the post-reform period in NYC compared to the male juveniles, this was still at a much lower rate than that of the rest of the state. Even in the case of Black city juveniles, the pre-post results indicate significant increase in arrest rates which could also explain the reduction in recidivism rates due to incapacitance.

It is important to note here that we cannot attribute the changes in recidivism in the paper to the singular concept of staying closer to home but to the umbrella that also covers the rehabilitative nature of the reform as well as the decisions made by the judicial people who are trying to keep the spirit of the reform by altering their choices in making arrest and detention calls and sentencing choices. Based on the results, I would say that while the reform itself seems to be helping the city juveniles across most vulnerable demographics such as female and Black juveniles, a few things to explore the story behind would be the the increase in likelihood of detention and placement for females in the post-reform period, and the increase in the likelihood of getting arrested for male Black juveniles that is much higher than the rest for both non-status offenses as well as felonies. There are also data limitations in the paper such as 40% of the records having missing race information, and no information on the actual distance between the juvenile's home and the facility the juvenile is being sent to. The initial estimates of the paper incentivize me to pursue this topic further, to find both, more comprehensive data and better ways of answering the research question. In future research, I hope to get more precise results with additional supplementary data based on educational outcomes.

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10 Tables and Figures

Table 10.1: Demographic Statistics

	Arrests		Comparison group		Treatment group	
	mean	sd	mean	sd	mean	sd
Age at referral	14.2284	(1.2124)	14.1831	(1.2940)	14.2860	(1.0976)
Female	0.2291	(0.4203)	0.2332	(0.4229)	0.2239	(0.4169)
White	0.2182	(0.4130)	0.3033	(0.4597)	0.1085	(0.3110)
Black	0.3378	(0.4730)	0.3107	(0.4628)	0.3727	(0.4835)
Native	0.0034	(0.0580)	0.0050	(0.0708)	0.0012	(0.0349)
Asian/Pacific Islander	0.0067	(0.0817)	0.0033	(0.0577)	0.0111	(0.1046)
Other Race	0.0251	(0.1565)	0.0290	(0.1677)	0.0202	(0.1407)
PostReform (PostR)	0.3098	(0.4624)	0.3350	(0.4720)	0.2773	(0.4477)
NYC	0.4370	(0.4960)				
Observations	129679		73015		56664	

Source: NCJJ Data. Comparison group is rest of the State of New York and treatment group is New York City. Natives are either American or Alaskan natives. NYC is an indicator variable for juveniles charged in NYC and PostR is an indicator variable for the period post reform implementation.

Table 10.2: Charges & Disposition Statistics

	Arrests		Comparison group		Treatment group	
	mean	sd	mean	sd	mean	sd
Crime types						
Misdemeanor	0.5207	(0.4996)	0.5835	(0.4930)	0.4398	(0.4964)
Felony	0.4793	(0.4996)	0.4165	(0.4930)	0.5602	(0.4964)
Drug charges	0.0217	(0.1457)	0.0082	(0.0901)	0.0391	(0.1939)
Theft charges	0.3699	(0.4828)	0.3559	(0.4788)	0.3880	(0.4873)
Aggression charges	0.2584	(0.4378)	0.2364	(0.4249)	0.2868	(0.4523)
Sexual misconduct charges	0.0423	(0.2012)	0.0523	(0.2227)	0.0293	(0.1686)
Criminal Mischief	0.1326	(0.3391)	0.1472	(0.3543)	0.1137	(0.3175)
Sentencing types						
Detention	0.0802	(0.2715)	0.0741	(0.2620)	0.0879	(0.2832)
Dismissed	0.5081	(0.4999)	0.4936	(0.5000)	0.5269	(0.4993)
Probation	0.3305	(0.4704)	0.3313	(0.4707)	0.3296	(0.4701)
Out-of-home Placement	0.1303	(0.3367)	0.1262	(0.3321)	0.1356	(0.3424)
Observations	129679		73015		56664	

Source: NCJJ Data. Comparison group is rest of the State of New York and treatment group is New York City. Arrests are for non-status offenses only (crimes if committed by adults such as robbery, assault, etc.). Detention here is an indicator variable for whether a juvenile was detained when arrested. For easier grouping, it has been put under sentencing types both here and elsewhere.

Table 10.3: Recidivism rates and frequency

	Arrests		Comparison group		Treatment group	
	mean	sd	mean	sd	mean	sd
Recidivism	0.2467	(0.4311)	0.2573	(0.4371)	0.2331	(0.4228)
First Year	0.1992	(0.3994)	0.2012	(0.4009)	0.1966	(0.3974)
Second Year	0.0334	(0.1798)	0.0380	(0.1912)	0.0276	(0.1637)
Third year	0.0101	(0.1000)	0.0124	(0.1109)	0.0071	(0.0839)
Later	0.0039	(0.0626)	0.0056	(0.0745)	0.0018	(0.0426)
Observations	129679		73015		56664	

Source: NCJJ Data. Comparison group is rest of the State of New York and treatment group is New York City. Recidivism here is defined as re-offending at any point in time while still being a minor. About 80% of juveniles who ever re-offend do it within the first year and almost 95% of juveniles who ever re-offend do it within the first two years.

Table 10.4: Recidivism rates - Pre-post NYC using fixed effects

	Overall	Main	Placement	Ages 11-14
Without treatment heterogeneity:				
PostReform (PostR)	0.016	0.007	0.052	-0.022
	(0.013)	(0.017)	(0.049)	(0.027)
With treatment heterogeneity:				
PostR	0.041**	0.004	0.038	-0.020
	(0.013)	(0.018)	(0.054)	(0.030)
PostR × Female	-0.016*	0.008	0.004	-0.000
	(0.007)	(0.009)	(0.032)	(0.016)
PostR × Black	-0.038***	0.003	0.030	0.004
	(0.008)	(0.010)	(0.031)	(0.017)
Observations	57961	32078	3697	15028

Overall sample is all the available records. Main sample is all records without any missing race data. Placement sample is limited to the kids that were put into placement. Ages 11-14 as the name suggests includes only juveniles in the age group. PostR is an indicator variable for the period post reform implementation. I check for treatment heterogeneity among females and Black juveniles by interacting PostR with these indicator variables. Robust standard errors provided in parentheses. (p-value < 0.05 - * , < 0.01 - ** , < 0.001 - ***)

Table 10.5: Recidivism rates - Pre-post NYC using fixed effects

	Overall	Main	Placement	Ages 11-14
Recidivism				
PostReform (PostR)	0.054***	0.008	0.006	-0.013
	(0.014)	(0.019)	(0.056)	(0.031)
PostR × Female	-0.001	0.020*	0.039	0.017
	(0.007)	(0.010)	(0.035)	(0.016)
PostR × Black	-0.045***	0.001	0.039	0.000
	(-5.421)	(0.077)	(1.255)	(0.020)
PostR × Status offenses	-0.060***	-0.062***	-0.103*	-0.115***
	(0.009)	(0.014)	(0.050)	(0.027)
PostR × Felony	-0.017*	-0.017	0.027	-0.027
	(0.008)	(0.010)	(0.031)	(0.016)
Observations	57961	32078	3697	15028

Overall sample is all the available records. Main sample is all records without any missing race data. Placement sample is limited to the kids that were put into placement. Ages 11-14 as the name suggests includes only juveniles in the age group. PostR is an indicator variable for the period post reform implementation. I check for treatment heterogeneity among females and Black juveniles by interacting PostR with these indicator variables. PostR × Status offenses indicates the effect of the reform on recidivism rates of juveniles who previously only committed a status offense but recidivated to a non-status offense (crimes if committed by adults such as robbery, assault, etc.). PostR × Felony indicates the effect of the reform on recidivism rates of juveniles who previously committed a felony offense and recidivated again to a non-status offense (either misdemeanor or felony). Robust standard errors provided in parentheses. (p-value < 0.05 - * , < 0.01 - ** , < 0.001 - ***)

Table 10.6: Pre-trial detention and sentencing rates - Pre-post NYC using fixed effects

	Overall	Main Dataset	Placement	Ages 11-14
Panel A: Detention				
Without treatment heterogeneity:				
PostReform (PostR)	-0.0142**	-0.0139*	-0.0090	-0.0169
	(0.0053)	(0.0062)	(0.0330)	(0.0088)
With treatment heterogeneity:				
PostR	-0.0168**	-0.0103	-0.0095	-0.0136
	(0.0058)	(0.0072)	(0.0360)	(0.0104)
PostR × Female	0.0139***	0.0096*	0.0186	0.0045
	(0.0036)	(0.0047)	(0.0229)	(0.0070)
PostR × Black	-0.0041	-0.0086	-0.0032	-0.0061
	(0.0040)	(0.0051)	(0.0221)	(0.0080)
Panel B: Dismissed				
Without treatment heterogeneity:				
PostReform (PostR)	0.024	0.032		0.007
	(0.0151)	(0.0189)		(0.0277)
With treatment heterogeneity:				
PostR	0.029	0.031		0.002
	(0.0160)	(0.0209)		(0.0309)
PostR × Female	-0.017*	-0.031**		-0.037*
	(0.0084)	(0.0110)		(0.0165)
PostR × Black	0.002	0.014		0.021
	(0.0089)	(0.0114)		(0.0173)
Panel C: Out-of-home Placement				
Without treatment heterogeneity:				
PostReform (PostR)	-0.023*	-0.025		-0.036*
	(0.0102)	(0.0127)		(0.0183)
With treatment heterogeneity:				
PostR	-0.036**	-0.023		-0.021
	(0.0109)	(0.0142)		(0.0205)
PostR × Female	0.029***	0.031***		0.032**
	(0.0056)	(0.0073)		(0.0107)
PostR × Black	0.007	-0.014		-0.032**
	(0.0061)	(0.0077)		(0.0115)
Observations	57961	32078	3697	15028

Overall sample is all the available records. Main sample is all records without any missing race data. Placement sample is limited to the kids that were put into placement. Ages 11-14 as the name suggests includes only juveniles in the age group. PostR is an indicator variable for the period post reform implementation. I check for treatment heterogeneity among females and Black juveniles by interacting PostR with these indicator variables. Robust standard errors provided in parentheses. (p-value < 0.05 - * , < 0.01 - ** , < 0.001 - ***)

Table 10.7: Arrest rates - Pre-post NYC using fixed effects

	Overall	Main Dataset	Placement	Ages 11-14
Panel A: Non-status				
Without treatment heterogeneity:				
PostReform (PostR)	-0.003	0.017	0.012	-0.002
	(0.0107)	(0.0092)	(0.0193)	(0.0120)
With treatment heterogeneity:				
PostR	-0.044***	-0.016	-0.009	-0.020
	(0.0118)	(0.0112)	(0.0240)	(0.0148)
PostR × Female	-0.018*	-0.080***	-0.052	-0.083***
	(0.0079)	(0.0095)	(0.0306)	(0.0134)
PostR × Black	0.095***	0.075***	0.040	0.056***
	(0.0074)	(0.0082)	(0.0210)	(0.0114)
Panel B: Felony				
Without treatment heterogeneity:				
PostReform (PostR)	0.025	0.035	0.021	-0.034
	(0.0158)	(0.0197)	(0.0577)	(0.0285)
With treatment heterogeneity:				
PostR	-0.004	0.012	0.009	-0.072*
	(0.0169)	(0.0219)	(0.0639)	(0.0320)
PostR × Female	-0.008	-0.034**	0.023	-0.031
	(0.0091)	(0.0118)	(0.0398)	(0.0179)
PostR × Black	0.064***	0.045***	0.012	0.063***
	(0.0095)	(0.0120)	(0.0376)	(0.0184)
Observations	57961	32078	3697	15028

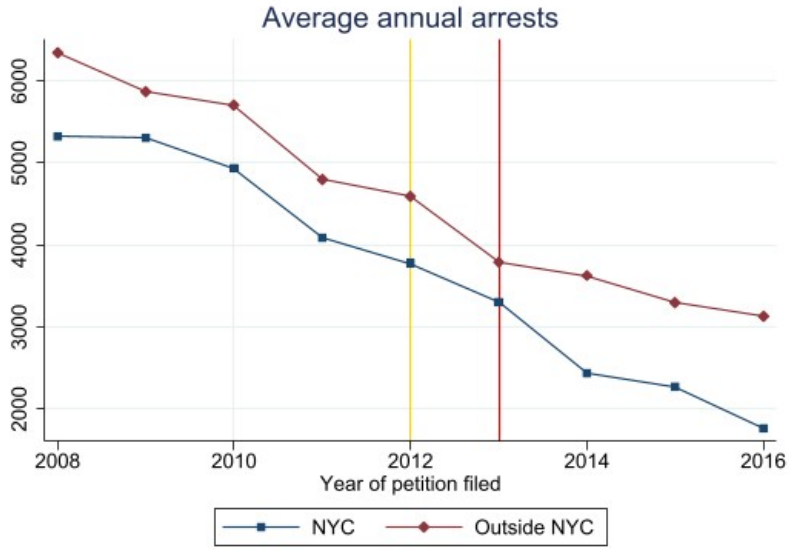
Overall sample is all the available records. Main sample is all records without any missing race data. Placement sample is limited to the kids that were put into placement. Ages 11-14 as the name suggests includes only juveniles in the age group. PostR is an indicator variable for the period post reform implementation. I check for treatment heterogeneity among females and Black juveniles by interacting PostR with these indicator variables Robust standard errors provided in parentheses. (p-value < 0.05 - * , < 0.01 - ** , < 0.001 - ***)

Table 10.8: Recidivism rates - Difference-in-differences

	Overall	Main	Placement	Ages 11-14
Without treatment heterogeneity:				
NYC × PostR (DiD)	0.014***	0.007	0.034*	0.001
	(0.004)	(0.006)	(0.017)	(0.009)
With treatment heterogeneity:				
DiD	0.043***	0.036***	0.040	0.053***
	(0.006)	(0.008)	(0.025)	(0.014)
DiD × Female	-0.032***	-0.028***	-0.051*	-0.039**
	(0.006)	(0.007)	(0.024)	(0.012)
DiD × Black	-0.030***	-0.028***	0.006	-0.056***
	(0.006)	(0.007)	(0.024)	(0.012)
Observations	146069	92804	11960	42710

Overall sample is all the available records. Main sample is all records without any missing race data. Placement sample is limited to the kids that were put into placement. Ages 11-14 as the name suggests includes only juveniles in the age group. PostR is an indicator variable for the period post reform implementation (treatment period). NYC is an indicator variable for juveniles charged/arrested in NYC (treatment group). The effect of the reform is given by interacting these two variables NYC × PostR (DiD). I check for treatment heterogeneity among NYC's female and Black juveniles by interacting DiD with these indicator variables Robust standard errors provided in parentheses. (p-value < 0.05 - * , < 0.01 - ** , < 0.001 - ***)

Figure 10.1: Annual arrest rates from 2008-2016



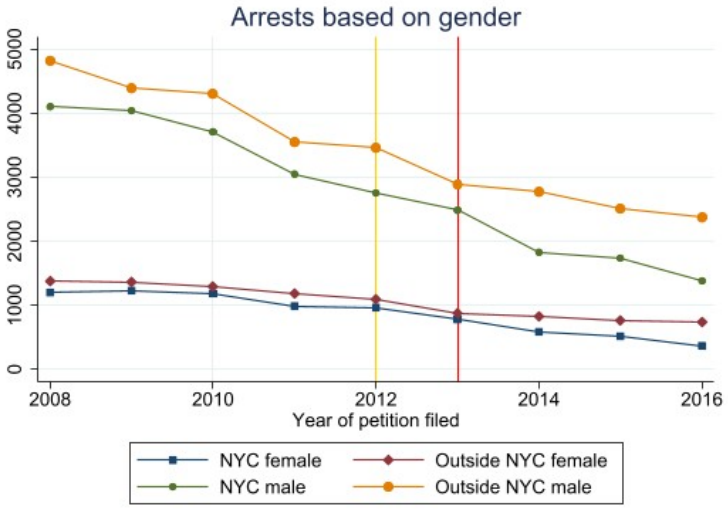
Grey line represents proposal of C2H legislation. Yellow represents C2H passed into law. Red represents the implementation of C2H reform.

Table 10.9: Recidivism rates - Difference-in-difference

	Overall	Main	Placement	Ages 11-14
NYC × PostR (DiD)	0.055***	0.042***	0.003	0.059***
	(0.008)	(0.009)	(0.029)	(0.016)
DiD × Female	-0.023***	-0.023**	-0.009	-0.036**
	(0.006)	(0.007)	(0.026)	(0.013)
DiD × Black	-0.035***	-0.030***	0.014	-0.056***
	(0.006)	(0.007)	(0.024)	(0.013)
DiD × Status offenses	-0.035***	-0.023**	-0.094**	-0.021
	(0.008)	(0.009)	(0.033)	(0.018)
DiD × Felony	-0.010	-0.006	0.055*	-0.008
	(0.008)	(0.008)	(0.025)	(0.013)
PostReform (PostR)	-0.011	-0.018	-0.001	-0.035*
	(0.008)	(0.010)	(0.030)	(0.017)
NYC	-0.003	0.007	-0.008	0.007
	(0.002)	(0.004)	(0.012)	(0.007)
Observations	146069	92804	11960	42710

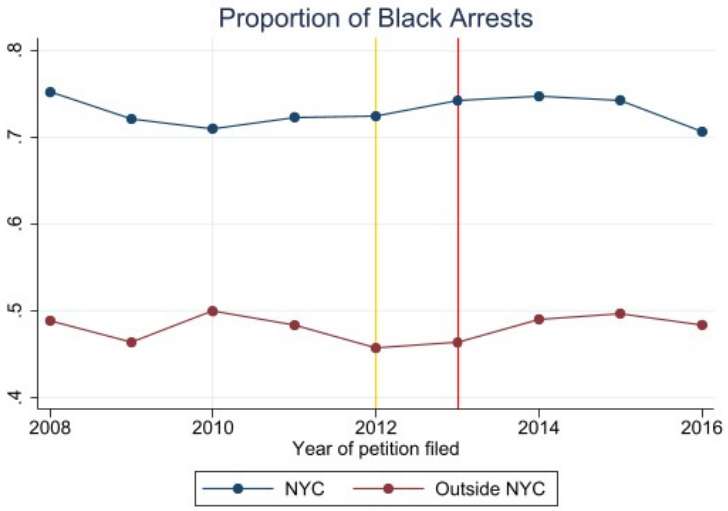
Overall sample is all the available records. Main sample is all records without any missing race data. Placement sample is limited to the kids that were put into placement. Ages 11-14 as the name suggests includes only juveniles in the age group. PostR is an indicator variable for the period post reform implementation (treatment period). NYC is an indicator variable for juveniles charged/arrested in NYC (treatment group). The effect of the reform is given by interacting these two variables NYC × PostR (DiD). I check for treatment heterogeneity among NYC's female and Black juveniles by interacting DiD with these indicator variables. DiD × Status offenses indicates the effect of the reform on recidivism rates of NYC juveniles who previously only committed a status offense but recidivated to a non-status offense (crimes if committed by adults such as robbery, assault, etc.) compared to their untreated counterparts. DiD × Felony indicates the effect of the reform on recidivism rates of NYC juveniles who previously committed a felony offense and recidivated again to a non-status offense (either misdemeanor or felony) compared to their untreated counterparts. Robust standard errors provided in parentheses. (p-value < 0.05 - * , < 0.01 - ** , < 0.001 - ***)

Figure 10.2: Annual arrest rates based on gender from 2008 to 2016



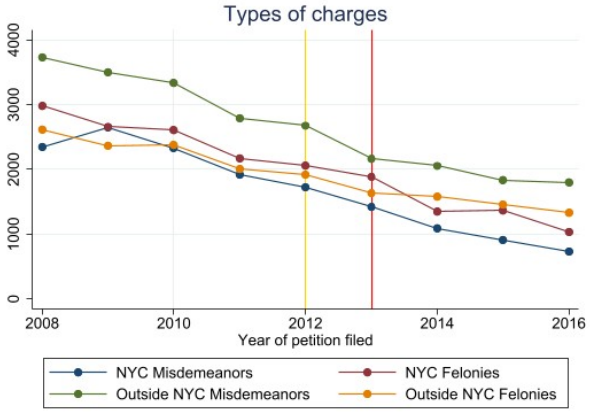
Grey line represents proposal of C2H legislation. Yellow represents C2H passed into law. Red represents the implementation of C2H reform.

Figure 10.3: Annual arrest rates of Black juveniles proportional to total from 2008 to 2016



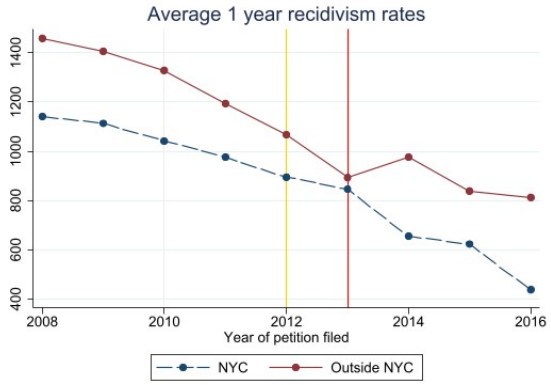
Grey line represents proposal of C2H legislation. Yellow represents C2H passed into law. Red represents the implementation of C2H reform.

Figure 10.4: Arrest rates based on offense type

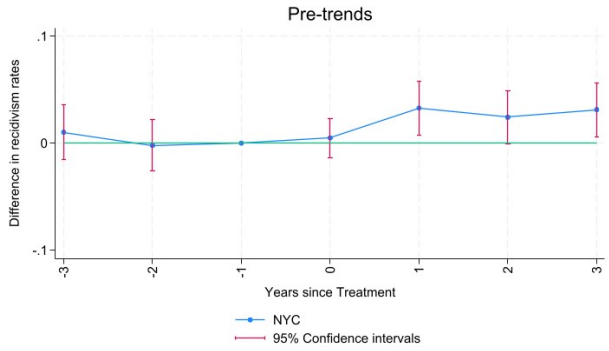


Grey line represents proposal of C2H legislation. Yellow represents C2H passed into law. Red represents the implementation of C2H reform.

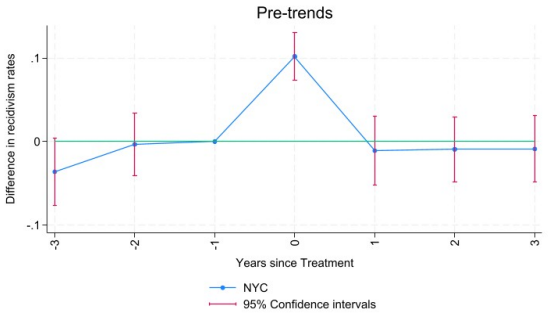
Figure 10.5: Average Recidivism rates within NYC Vs rest of the state



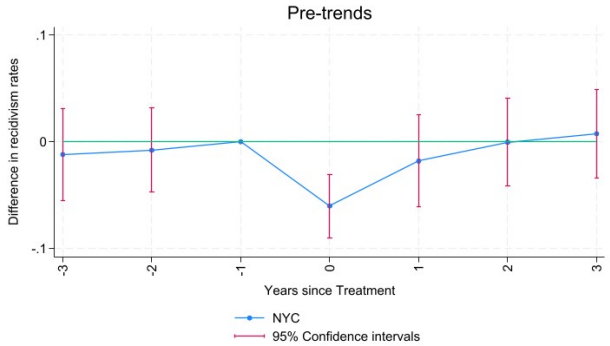
(a) Recidivism rates - Time trends



(b) Recidivism rates - Event study



(c) Recidivism rates - Female Vs Male juveniles



(d) Recidivism rates - Black Vs Non-black juveniles

Source: NCJJ data. Grey line represents proposal of C2H legislation. Yellow represents C2H passed into law. Red represents the implementation of C2H reform. (a) shows the unconditional recidivism rate averages whereas (b) depicts the average recidivism rates conditional on covariates.(c) and (d) depict the average recidivism rates conditional on covariates for female NYC juveniles compared to the males and for black NYC juveniles compared to non-Black juveniles respectively.

11 Appendices

Appendix A

Table 11.A.1: Pre-trends - New York City Vs Untreated counties

	Event study estimates		
	NYC Vs Rest of state	Female Vs Male	Black Vs Non-Black
Years since treatment=-3	0.0103	-0.0361	-0.0119
	(0.01)	(0.02)	(0.02)
Years since treatment=-2	-0.0019	-0.0033	-0.0079
	(0.01)	(0.02)	(0.02)
Years since treatment=0	0.0049	0.1021***	-0.0601***
	(0.01)	(0.01)	(0.02)
Years since treatment=1	0.0329*	-0.0109	-0.0180
	(0.01)	(0.02)	(0.02)
Years since treatment=2	0.0243	-0.0092	-0.0004
	(0.01)	(0.02)	(0.02)
Years since treatment=3	0.0314*	-0.0087	0.0076
	(0.01)	(0.02)	(0.02)
Controls	Yes	Yes	Yes
Observations	58030	23883	23701
Control mean	0.1977	0.2693	0.1962

Table 11.A.2: Demographic Statistics

	Status offenses		Non-status offenses	
	mean	sd	mean	sd
Age at referral	14.8911	(1.3567)	14.2284	(1.2124)
Female	0.5507	(0.4974)	0.2291	(0.4203)
White	0.2557	(0.4363)	0.2182	(0.4130)
Black	0.2726	(0.4453)	0.3378	(0.4730)
Native	0.0049	(0.0696)	0.0034	(0.0580)
Asian/Pacific Islander	0.0068	(0.0822)	0.0067	(0.0817)
Other Race	0.0619	(0.2411)	0.0251	(0.1565)
PostR	0.3301	(0.4703)	0.3098	(0.4624)
NYC	0.2584	(0.4378)	0.4370	(0.4960)
Observations	51404		129679	

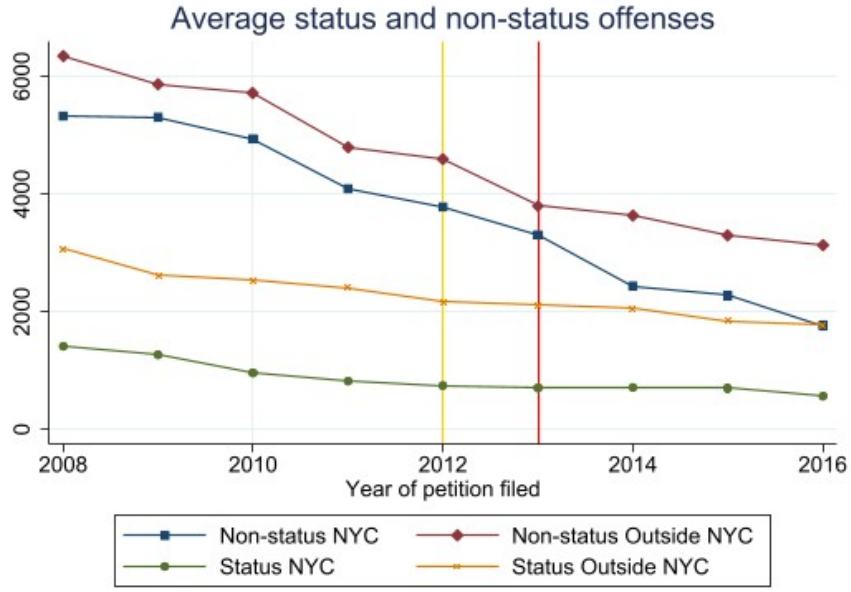
Source: NCJJ Data. Status offenses are offenses due to age such as truancy, underage drinking/driving, etc. Non-status offenses are crimes if committed by adults such as robbery, assault, etc. Natives are either American or Alaskan natives. NYC is an indicator variable for juveniles charged/arrested in NYC and PostR is an indicator variable for period post reform implementation.

Table 11.A.3: Sentencing statistics - NYC

	Status offenses		Non-status offenses	
	mean	sd	mean	sd
Detention	0.0053	(0.0729)	0.0879	(0.2832)
Dismissed	0.9042	(0.2943)	0.5269	(0.4993)
Probation	0.0190	(0.1367)	0.3296	(0.4701)
Out-of-home Placement	0.0708	(0.2565)	0.1356	(0.3424)
Observations	13282		56664	

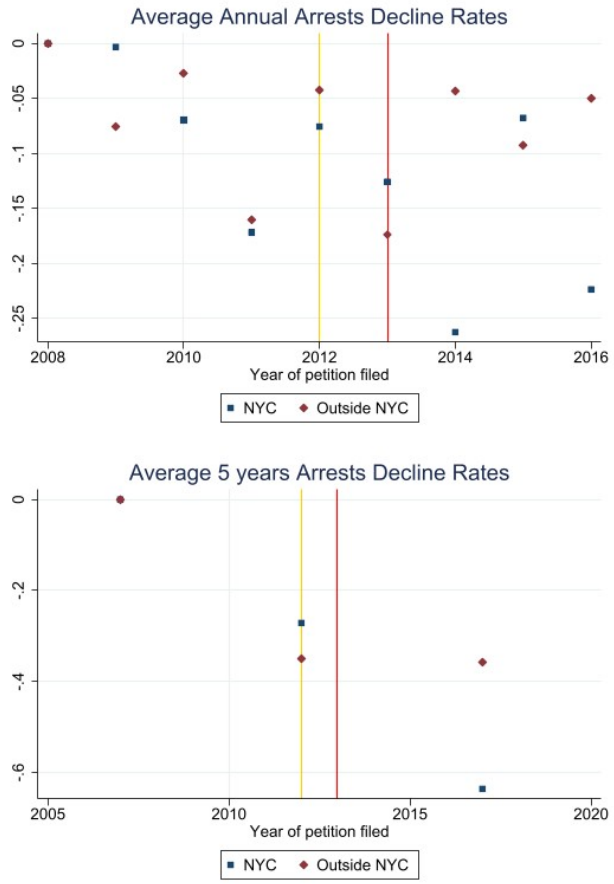
Source: NCJJ Data. Status offenses are offenses due to age such as truancy, underage drinking/driving, etc. Non-status offenses are crimes if committed by adults such as robbery, assault, etc.

Figure 11.A.1: Average status and non-status offenses



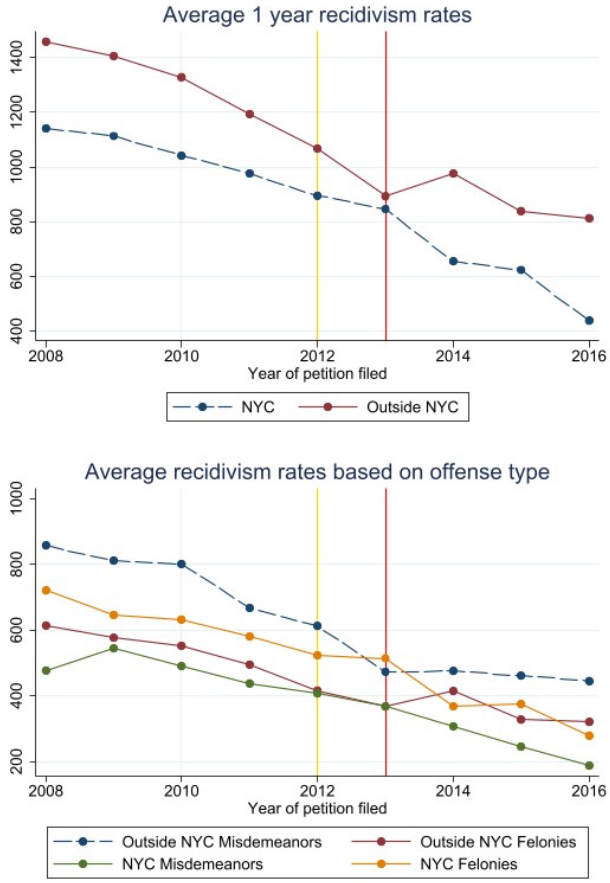
Grey line represents proposal of C2H legislation. Yellow represents C2H passed into law. Red represents the implementation of C2H

Figure 11.A.2: Arrest rates trends



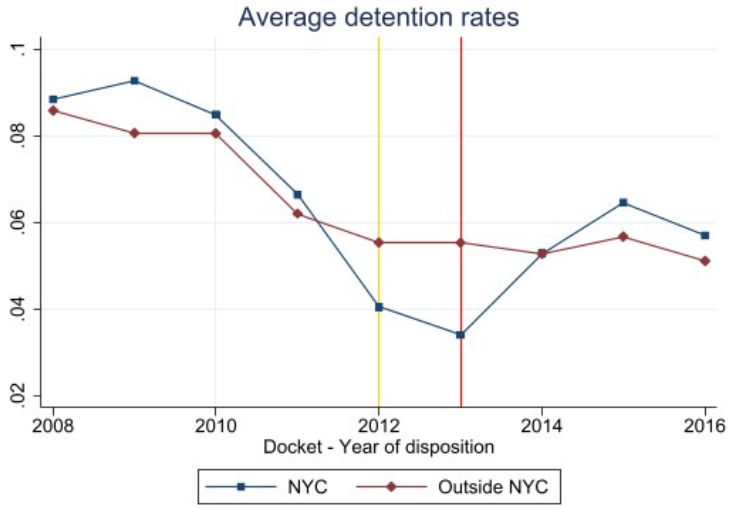
Grey line represents proposal of C2H legislation. Yellow represents C2H passed into law. Red represents the implementation of C2H

Figure 11.A.3: Average recidivism rates and recidivism rates based on offense type



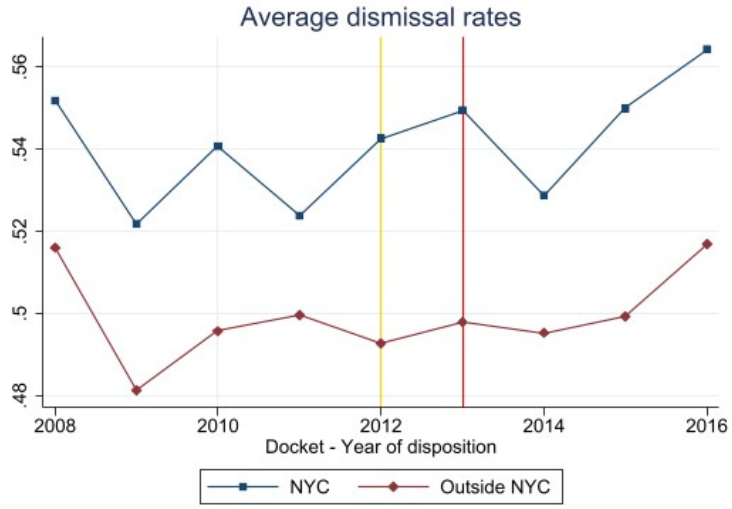
Grey line represents proposal of C2H legislation. Yellow represents C2H passed into law. Red represents the implementation of C2H

Figure 11.A.4: Average pre-trial detention rates



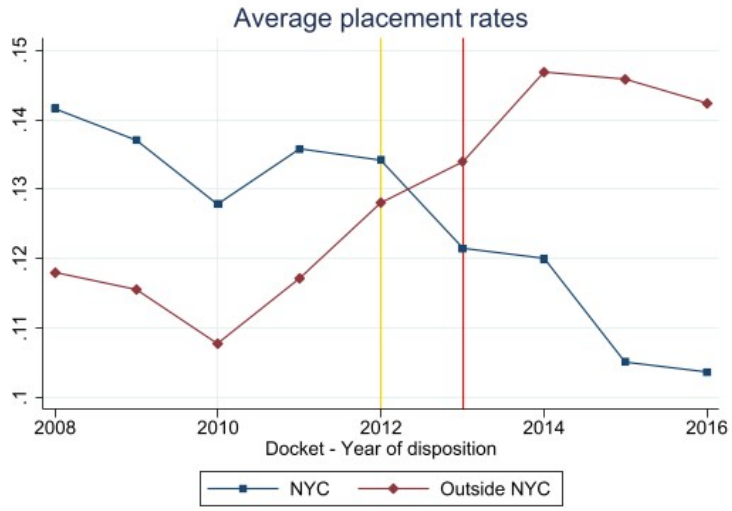
Grey line represents proposal of C2H legislation. Yellow represents C2H passed into law. Red represents the implementation of C2H

Figure 11.A.5: Average dismissal rates



Grey line represents proposal of C2H legislation. Yellow represents C2H passed into law. Red represents the implementation of C2H

Figure 11.A.6: Average placement rates



Grey line represents proposal of C2H legislation. Yellow represents C2H passed into law. Red represents the implementation of C2H

Appendix B: Baseline means

Table 11.B.1: Baseline means

Pre-period means	Overall		Main		Placement		Ages 11-14	
Arrests	0.8175	(0.39)	0.8714	(0.33)	0.9304	(0.25)	0.9099	(0.29)
Misdemeanor	0.3755	(0.48)	0.4081	(0.49)	0.3619	(0.48)	0.3990	(0.49)
Felony	0.4420	(0.50)	0.4633	(0.50)	0.5686	(0.50)	0.5110	(0.50)
Detention	0.0731	(0.26)	0.0617	(0.24)	0.1361	(0.34)	0.0638	(0.24)
Dismissed	0.5929	(0.49)	0.5712	(0.49)	0.0000	(0.00)	0.5565	(0.50)
Out-of-home Placement	0.1255	(0.33)	0.1263	(0.33)	1.0000	(0.00)	0.1255	(0.33)
Recidivism	0.1662	(0.37)	0.2406	(0.43)	0.2643	(0.44)	0.3269	(0.47)
Observations	40433		15814		1998		7838	

Control means	Overall		Main		Placement		Ages 11-14	
Arrests	0.6768	(0.47)	0.6675	(0.47)	0.6813	(0.47)	0.7433	(0.44)
Misdemeanor	0.3988	(0.49)	0.3891	(0.49)	0.3550	(0.48)	0.4353	(0.50)
Felony	0.2779	(0.45)	0.2784	(0.45)	0.3263	(0.47)	0.3080	(0.46)
Detention	0.0559	(0.23)	0.0562	(0.23)	0.1080	(0.31)	0.0650	(0.25)
Dismissed	0.5071	(0.50)	0.5121	(0.50)	0.0000	(0.00)	0.4786	(0.50)
Probation	0.3385	(0.47)	0.3304	(0.47)	0.0000	(0.00)	0.3507	(0.48)
Out-of-home Placement	0.1199	(0.32)	0.1318	(0.34)	1.0000	(0.00)	0.1452	(0.35)
Recidivism	0.1590	(0.37)	0.1917	(0.39)	0.2056	(0.40)	0.2742	(0.45)
Observations	56190		30992		4085		14053	